JUNE 1978

ISSN 0 378–4371

PHYSICA A

EUROPHYSICS JOURNAL

Theoretical and Statistical Physics

MASTER INDEX

VOLUMES 79A–90A

JANUARY 1975–MARCH 1978

PHYSA MASTER INDEX 79A–90A

NORTH-HOLLAND AMSTERDAM

PHYSICA A and PHYSICA B + C are published by the North-Holland Publishing Company, on request of the Foundation "Physica", Lucas Bolwerk 4, Utrecht, The Netherlands.

General editor PHYSICA: W.J. HUISKAMP, Kamerlingh Onnes Laboratorium Nieuwsteeg 18, Leiden, The Netherlands
Editor PHYSICA A: H.W. CAPEL, Leiden
Editors PHYSICA B: P.F. DE CHATEL, Amsterdam
M. DURIEUX, Leiden
Editors PHYSICA C: H.L. HAGEDOORN, Eindhoven
P.F.A. KLINKENBERG, Amsterdam
Technical editor: P. TEL, North-Holland Publishing Company, P.O. Box 103, Amsterdam, The Netherlands – TELEX 16479

ADVISORY EDITORIAL BOARD PHYSICA A

J.J.M. BEENAKKER, Leiden
J. DE BOER, Amsterdam
E.G.D. COHEN, New York
M. DRESDEN, Stony Brook
S.R. DE GROOT, Amsterdam
D. TER HAAR, Oxford
N.M. HUGENHOLTZ, Groningen
N.G. VAN KAMPEN, Utrecht
P.W. KASTELEYN, Leiden
I.M. KHALATNIKOV, Moscow
J.M.J. VAN LEEUWEN, Delft
J. VAN DER LINDEN, Leiden
B.R.A. NIJBOER, Utrecht
I. OPPENHEIM, Cambridge, Mass.
I. PRIGOGINE, Brussels
P.M.V. RÉSIBOIS, Brussels
D. RUELLE, Bures-sur-Yvette
J.V. SENGERS, College Park, Md.
A. TIP, Amsterdam
N.J. TRAPPENIERS, Amsterdam
J. VLIEGER, Leiden
L. WALDMANN, Erlangen
H. WERGELAND, Trondheim
B. WIDOM, Ithaca
D.N. ZUBAREV, Moscow

Subscription data (all prices are **inclusive of** postage and handling)

PHYSICA A: The subscription price per volume of about 640 pages is Dfl. 165.00. For 1978 5 volumes PHYSICA A are announced at a total price of Dfl. 825.00. PHYSICA A is published monthly.

PHYSICA B + C: The subscription price per volume of about 432 two-column pages is Dfl. 165.00. For 1978 4 volumes PHYSICA B + C are announced at a total price of Dfl. 660.00. Physica B + C is published monthly.

PHYSICA A and PHYSICA B + C: The total price of a combined subscription to both PHYSICA A and PHYSICA B + C (9 volumes in all) is Dfl. 1260.00. The subscription price per volume is Dfl. 140.00.
Subscriptions should be sent to the publishers, NORTH-HOLLAND PUBLISHING COMPANY, P.O. Box 211, Amsterdam, The Netherlands, or to any subscription agent.

Claims for missing numbers should be made within three months of their publication. The publishers only expect to supply missing numbers free when losses have been sustained in transit and when stocks permit.

© *North-Holland Publishing Company, 1978.*
All Rights Reserved. No part of this issue may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Copyright owner.

Submission to this journal of a paper entails the author's irrevocable and exclusive authorization of the publisher to collect any sums or considerations for copying or reproduction payable by third parties (as mentioned in article 17 paragraph 2 of the Dutch Copyright Act of 1912 and in the Royal Decree of June 20, 1974 (S. 351) pursuant to article 16b of the Dutch Copyright Act of 1912) and/or to act in or out of Court in connection therewith.

Printed in The Netherlands

PHYSICA A

PHYSICA MASTER INDEX 79A–90A

J. J. M. BEENAKKER, Leiden
J. DE BOER, Amsterdam
E. G. D. COHEN, New York
M. DRESDEN, Stony Brook
S. R. DE GROOT, Amsterdam
D. TER HAAR, Oxford
N. M. HUGENHOLTZ, Groningen
N. G. VAN KAMPEN, Utrecht
P. W. KASTELEYN, Leiden
I. M. KHALATNIKOV, Moscow
J. M. J. VAN LEEUWEN, Delft
J. VAN DER LINDEN, Leiden
B. R. A. NIJBOER, Utrecht
I. OPPENHEIM, Cambridge, Mass.
I. PRIGOGINE, Brussels
P. M. V. RÉSIBOIS, Brussels
D. RUELLE, Bures-sur-Yvette
J. V. SENGERS, College Park, Md.
A. TIP, Amsterdam
N. J. TRAPPENIERS, Amsterdam
J. VLIEGER, Leiden
L. WALDMANN, Erlangen
H. WERGELAND, Trondheim
B. WIDOM, Ithaca
D. N. ZUBAREV, Moscow

JUNE 1978

PHYSICA A

EUROPHYSICS JOURNAL

Theoretical
and
Statistical Physics

General editor PHYSICA: W. J. HUISKAMP
Editor PHYSICA A: H. W. CAPEL

MASTER INDEX

VOLUMES 79A–90A
JANUARY 1975–MARCH 1978

NORTH-HOLLAND AMSTERDAM

© *North-Holland Publishing Company, 1978*
All Rights Reserved. No part of this issue may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Copyright owner.

Submission to this journal of a paper entails the author's irrevocable and exclusive authorization of the publisher to collect any sums or considerations for copying or reproduction payable by third parties (as mentioned in article 17 paragraph 2 of the Dutch Copyright Act of 1912 and in the Royal Decree of June 20, 1974 (S. 351) pursuant to article 16b of the Dutch Copyright Act of 1912) and/or to act in or out of Court in connection therewith.

Printed in The Netherlands

INDEX OF AUTHORS AND PAPERS

Abraham, D.B. and Heilmann, O.J., The rigidity of the surface of phase separation in the Ising ferromagnet **85A** (1976) 589

Adu-Gyamfi, D. and Felderhof, B.U., On the propagation of light in media with higher multipole densities **81A** (1975) 295

Aizenbud, B.M. and Gershon, N.D., Hydrodynamic equations and VH light scattering from binary mixtures of fluids of nonspherical molecules . . . **89A** (1977) 461

Albano, A.M., Bedeaux, D. and Mazur, P., On the motion of a sphere with arbitrary slip in a viscous incompressible fluid **80A** (1975) 89

Albano, A.M., see Bedeaux, D.

Alexanian, M. and Martínez-Garcilazo, J.P., Inequalities among static and dynamic critical-point exponents **89A** (1977) 583

Altenberger, A.R., On the calculation of the classical Liouville operator for the step-type interparticle interaction **80A** (1975) 46

Anderson, J.L., Variational principles for relativistic transport coefficients . **79A** (1975) 569

Anderson, J.L., Variational principles for calculation of transport coefficients of relativistic multi-component systems **85A** (1976) 287

Anderson, J.L. and Kox, A.J., On the correct forms of the transport coefficients for a relativistic gas of hard spheres **89A** (1977) 408

Anderson, J.L. and Payne, Jr., A.C., The relativistic Burnett equations and sound propagation **85A** (1976) 261

Arimitsu, T. and Suzuki, M., Exact solution and scaling theory of superradiance **90A** (1978) 303

Áurea Cunha, M. and Laranjeira, M.F., Parameters of the exponential-six potential model for neon **87A** (1977) 202

Auslender, M.I., see Kalashnikov, V.P.

Baas, F., Breunese, J.N., Knaap, H.F.P. and Beenakker, J.J.M., Flow birefringence in gases of linear and symmetric top molecules **88A** (1977) 1

Baas, F., Breunese, J.N. and Knaap, H.F.P., Flow birefringence in gaseous mixtures **88A** (1977) 34

Baas, F., Oudeman, P., Knaap, H.F.P. and Beenakker, J.J.M., Heat-flow birefringence in gaseous O_2 . . . . . **88A** (1977) 44

Baas, F., Oudeman, P., Knaap, H.F.P. and Beenakker, J.J.M., Experimental investigation of the nonequilibrium velocity distribution function in a heat conducting gas **89A** (1977) 73

Baer, S., Structural correlations and the "structural diffusion" model for liquids **87A** (1977) 569

Baeriswyl, D., see Wehner, R.K.

Bailly, F., Mouvement brownien dans une assemblée de bâtonnets minces dans la phase isotrope **82A** (1975) 247

Bailly, F., Mouvement brownien dans une assemblée de bâtonnets minces dans la phase nématique **85A** (1976) 528

Balescu, R. and Poulain, M., A manifestly gauge-invariant formulation of quantum electrodynamics **79A** (1975) 559

Balescu, R. and Brenig, L., On the relativistic plasma-dynamical and hydrodynamical normal modes **81A** (1975) 1
Balescu, R., Paiva-Veretennicoff, I. and Brenig, L., Kinetic theory of the plasma-dynamical modes and the transport coefficients of a relativistic plasma **81A** (1975) 17
Bariev, R.Z., Higher-order correlation functions of the planar Ising model . . **83A** (1976) 388
Bartis, J.T., Rotational relaxation of spherical-top molecules by atoms . . . **82A** (1975) 134
Barua, A.K., see Bhanja, S.
Baus, M., Long-wavelength fluctuation spectra of charged *versus* neutral one-component systems **79A** (1975) 377
Baus, M., Microscopic theory of the long-wavelength modes of two component plasmas and ionic liquids. I. The transverse modes **88A** (1977) 319
Baus, M., Microscopic theory of the long-wavelength modes of two component plasmas and ionic liquids. II. The longitudinal modes **88A** (1977) 336
Baus, M., Microscopic theory of the long-wavelength modes of two component plasmas and ionic liquids. III. The space–time correlation functions . . . **88A** (1977) 591
Beck, H., see Schneider, T.
Becker, W., Relativistic charged particles in the field of an electromagnetic plane wave in a medium **87A** (1977) 601
Beckers, J. and Jaspers, M., Representations of the Poincaré algebra, spin algebras and the infinite-momentum frame **79A** (1975) 338
Bedeaux, D. and Mazur, P., Renormalization of the diffusion coefficient in a fluctuating fluid. III. Diffusion of a brownian particle with finite size . . . **80A** (1975) 189
Bedeaux, D., Albano, A.M. and Mazur, P., Boundary conditions and non-equilibrium thermodynamics **82A** (1975) 438
Bedeaux, D., Mazur, P. and Pasmanter, R.A., The ballast resistor; an electro-thermal instability in a conducting wire I; the nature of the stationary states **86A** (1977) 355
Bedeaux, D., Kapral, R. and Mazur, P., The effective shear viscosity of a uniform suspension of spheres **88A** (1977) 89
Bedeaux, D., Albano, A.M. and Mazur, P., Brownian motion and fluctuating hydrodynamics II; A fluctuation-dissipation theorem for the slip coefficient **88A** (1977) 574
Bedeaux, D. and Oppenheim, I., Hydrodynamic response and free surface modes for two immiscible fluids **90A** (1978) 39
Bedeaux, D., see Albano, A.M.
Bedeaux, D., see Boots, H.M.J.
Bedeaux, D., see Høye, J.S.
Bedeaux, D., see Paauw, Th.T.A.
Bedeaux, D., see Pasmanter, R.A.
Bedeaux, D., see Ronis, D.
Bedeaux, D., see Vlieger, J.
Beenakker, J.J.M., see Baas, F.
Beenakker, J.J.M., see Bredewout, J.W.
Beenakker, J.J.M., see Coope, J.A.R.
Ben-Aryeh, Y. and Ruschin, S., Cooperative decay of a linear chain of molecules including explicit spatial dependence **88A** (1977) 362
Benettin, G., Brambilla, R. and Galgani, L., A comment on the reliability of the Toda criterion for the existence of a stochastic transition **87A** (1977) 381
Bennemann, K.H., see Holz, A.
Betts, D.D., see Rogiers, J.
Bhanja, S., Udayan De, Barua, A.K. and Bose, T.K., The effect of a magnetic field on the heat conductivity of oxygen and oxygen–argon gas mixtures . **90A** (1978) 167
Biemond, J., Dielectric alignment of a non-polar molecule substituting a polar molecule in a lattice of molecular dipoles **88A** (1977) 385
Biemond, J., MacLean, C. and Mandel, M., Alignment of polarizable dipoles on a lattice **79A** (1975) 52

Biemond, J., Maclean, C. and Mandel, M., On the theory of the alignment of a polar molecule in a non-polar solvent **83A** (1976) 358
Blomberg, C., The Brownian motion theory of chemical transition rates . . **86A** (1977) 49
Boghdadi, M., Perturbation theory for square-well plus Sutherland (∞, 6) fluid **85A** (1976) 193
Bogolubov, Jr., N.N. and Plechko, V.N., A class of exactly soluble many-body hamiltonians with the interaction of substance and boson field **82A** (1975) 163
Bokun, G.S., see Vikhrenko, V.S.
Boon, J.P., see Rouch, J.
Boots, H.M.J., On the theory of multiple scattering. III. Light scattering from critical binary mixtures **87A** (1977) 185
Boots, H.M.J., Bedeaux, D. and Mazur, P., On the theory of multiple scattering. I **79A** (1975) 397
Boots, H.M.J., Bedeaux, D. and Mazur, P., On the theory of multiple scattering II. Critical scattering **84A** (1976) 217
Borckmans, P., Dewel, G. and Walgraef, D., Longtime behaviour of correlation functions in Heisenberg paramagnets **88A** (1977) 261
Bose, T.K., see Bhanja, S.
Bossis, G., Influence d'une microstructure dans l'absorption integrée des liquides polaires **88A** (1977) 535
Braeter, H. and Kowalski, J.M., On the thermodynamics of the random one-dimensional Ising chain in a transverse field **87A** (1977) 243
Brambilla, R., see Benettin, G.
Brändas, E., Time evolution and spectral concentration in quantum systems . **82A** (1975) 97
Brankov, J.G., Tonchev, N.S. and Zagrebnov, V.A., An exactly solvable model for metal-insulator phase transition **79A** (1975) 125
Brankov, J.G. and Tonchev, N.S., Effects of lattice distortion of the energy gap of a BCS superconductor **84A** (1976) 371
Brankov, J.G. and Tonchev, N.S., On the relation between two models for superconductors with a structural distortion **84A** (1976) 534
Braun, E. and Godoy, S.V., Quantum statistical effects of the motion of an oscillator interacting with a radiation field **86A** (1977) 337
Bredewout, J.W., Van den Meijdenberg, C.J.N. and Beenakker, J.J.M., Glory undulations in the total cross section for scattering of heavy rare gas atoms **85A** (1976) 28
Brenig, L., see Balescu, R.
Brenig, L., see Malek-Mansour, M.
Breunese, J.N., see Baas, F.
Brey, J.J., On the structure of the three-particle operator in generalized kinetic equations for inhomogeneous gases **86A** (1977) 191
Brey, J.J., On the derivation of the Fokker–Planck equation from generalized kinetic equations **90A** (1978) 574
Brey, J.J., see De la Rubia, J.
Broer, L.J.F., Hidden hamiltonians of first-order equations **79A** (1975) 583
Broer, L.J.F., On the momentum of potential waves **83A** (1976) 471
Brostow, W. and Sicotte, Y., Coordination number in liquid argon **80A** (1975) 513
Budgor, A.B. and Robledo, A., On the relationship between continuous time random walks and the nonequilibrium Ornstein–Zernike equation **85A** (1976) 329
Burley, D.M., see Kaye, R.D.

Calais, J.-L., see Laskowski, B.
Calecki, D., see Lewiner, C.
Capel, H.W. and Siskens, Th.J., Note on the difference between the a-cyclic and c-cyclic version of the XY model **81A** (1975) 214
Capel, H.W. and Perk, J.H.H., Autocorrelation function of the X-component of the magnetization in the one-dimensional XY-model **87A** (1977) 211

Capel, H.W., see Den Ouden, L.W.J.
Capel, H.W., see Perk, J.H.H.
Capel, H.W., see Siskens, Th.J.
Capel, H.W., see Tindemans, P.A.J.
Capel, H.W., see Van Dongen, E.J.
Capri, A.Z., see Kreuzer, H.J.
Carrión, J.A., see Santamaría, C.M.
Cartwright, N.D., A non-negative Wigner-type distribution **83A** (1976) 210
Casagrande, F. and Milani, M., A theorem on bath-system correlation functions **87A** (1977) 411
Caspers, W.J., see Van de Braak, H.P.
Chan, E.M. and Tanaka, T., Three-phase equation of state by the lattice gas model **89A** (1977) 149
Chang, D.R., see Rice, O.K.
Chaturvedi, D.K., see Kahol, P.K.
Chavepeyer, G., see Legros, J.C.
Chen, H.H., see Chen, K.G.
Chen, K.G., Chen, H.H., Hsue, C.S. and Wu, F.Y., Planar classical Heisenberg model with biquadratic interactions **87A** (1977) 629
Chen, S.F., see Dresden, M.
Cichocki, B. and Piasecki, J., Microscopic interpretation of the Enskog equation for a homogeneous gas **85A** (1976) 101
Clark, J., Kestin, J. and Shah, V.L., Effect of long-range intermolecular forces on the drag of an oscillating disk and on the viscosity of gases **89A** (1977) 539
Cohen, E.G.D., see Hanley, H.J.M.
Combe, Ph. and Sorba, P., Electromagnetic fields with symmetry **80A** (1975) 271
Compagner, A., see Paauw, Th.T.A.
Coope, J.A.R., Sanctuary, B.C. and Beenakker, J.J.M., The influence of nuclear spins on the transport properties of molecular gases and application to HD. **79A** (1975) 129
Corngold, N., see Kuščer, I.
Coulon, Ph., see Lekkerkerker, H.N.W.
Courbage, M., On the collision operator for quantum systems with discrete spectrum **82A** (1975) 312
Courtenay Lewis, J. and Tjon, J.A., On the diffusion of clusters of hard rods **85A** (1976) 114

Dagonnier, R., see Dumont, M.
Das, A.K., Some properties of an electron gas in a quantizing magnetic field . **85A** (1976) 575
Das, A.K., Collective modes in some Fokker–Planck Coulomb systems: One-dimensional case **87A** (1977) 167
Das, A.K. and Schwendimann, P., Fokker–Planck equation for a periodic potential **89A** (1977) 605
De Boer, W.P.H. and Van Weert, Ch.G., Relativistic kinetic theory of quantum systems. II. Neutrino–antineutrino system **85A** (1976) 566
De Boer, W.P.H. and Van Weert, Ch.G., Relativistic kinetic theory of quantum systems. III. Transport equation for a neutrino system **86A** (1977) 67
De Boer, W.P.H., see Van Weert, Ch.G.
Decker, I. and Hahn, H., A simple way of understanding some exact results on critical phenomena in non-homogeneous and finite Ising systems (Ferrell's continuum approximation). I. . **83A** (1976) 143
Decker, I. and Hahn, H., A simple way of understanding some exact results on critical phenomena in non-homogeneous and finite Ising systems. II. Cooperativity in periodically layered systems **89A** (1977) 37
Deerenberg, A., see Schouten, J.A.
De Groot, S.R., The laws of relativistic thermodynamics. I. The macroscopic quantities **88A** (1977) 173

De Groot, S.R., The laws of relativistic thermodynamics. II. The density, momentum and energy laws **88A** (1977) 184
De Groot, S.R., The laws of relativistic thermodynamics. III. The entropy law **88A** (1977) 425
De Groot, S.R., Kox, A.J. and Van Leeuwen, W.A., On relativistic kinetic gas theory. XIX. The electron–neutrino system **84A** (1976) 613
De Groot, S.R., see Kox, A.J.
De Groot, S.R., see Van Leeuwen, W.A.
De Kerf, E.A., see Van der Kolk, C.M.
Dekeyser, R. and Rogiers, J., Series expansions for a generalized *XY* hamiltonian. I. The *XY* model in a parallel magnetic field **81A** (1975) 72
Dekeyser, R. and Reynaert, M., The *XY*-model and the self-avoiding walk approximation **84A** (1976) 197
Dekeyser, R., see Rogiers, J.
Dekker, H., On the Feynman proof of the exact relation between a class of path sums and the general nonlinear Fokker–Planck equation **84A** (1976) 205
Dekker, H., Time-local gaussian processes, path integrals and nonequilibrium nonlinear diffusion **85A** (1976) 363
Dekker, H., On the functional integral for generalized Wiener processes and nonequilibrium phenomena **85A** (1976) 598
Dekker, H., A functional Stieltjes measure and generalized diffusion processes **87A** (1977) 419
De Lange, C., see Van de Braak, H.P.
De la Rubia, J. and Brey, J.J., Linearized master equations in the correlation-patterns representation **80A** (1975) 260
De la Selva, S.M.T., see García-Colín, L.S.
De Leener, M. and Résibois, P., Two-spin dynamic autocorrelations and energy diffusion in the Heisenberg paramagnet **87A** (1977) 63
De Lillo, S. and Mancini, F., The Ginzburg–Landau parameter in the case of non-pure superconductors **87A** (1977) 391
Del Río, E., see Martina B.E.
Dembinski, S.T., On the current of population inversion between two coupled lasers **80A** (1975) 575
Demendy, Z., On the classes of integral equations nonderivable by graph theory means: An improved molecular theory for classical liquids in equilibrium . **86A** (1977) 587
Den Nijs, M.P.M., Pruisken, A.M.M. and Van Leeuwen, J.M.J., Critical phenomena for a triangular spin lattice I. Triplet interactions **84A** (1976) 539
Den Ouden, L.W.J., Capel, H.W., Perk, J.H.H. and Tindemans, P.A.J., Systems with separable many-particle interactions. I **85A** (1976) 51
Den Ouden, L.W.J., Capel, H.W. and Perk, J.H.H., Systems with separable many particle interactions. II. **85A** (1976) 425
Den Ouden, L.W.J., see Perk, J.H.H.
Der, R. and Haberlandt, R., Linked-cluster expansions in the equations of motion method for nonequilibrium processes **79A** (1975) 597
Der, R. and Haberlandt, R., Linked cluster expansions in the equations of motion method II. Kinetic equations for the single-particle density matrix . **86A** (1977) 25
De Ridder, R., Iterative method for the calculation of atomic cluster probabilities from pair correlations in binary systems **79A** (1975) 217
De Santis, A. and Ricci, F.P., Self-diffusion in Kr compared with Van der Waals model **83A** (1976) 425
De Santis, A. and Ricci, F.P., Diffusion of Kr in Kr–CH_4 mixture **87A** (1977) 404
De Schepper, I.M. and Ernst, M.H., Long time expansion of two-dimensional correlation functions **87A** (1977) 35
Deshpande, S.M., The averaging principle and the diagram technique . . . **80A** (1975) 287
Deutch, J.M., see Hills, B.P.

De Vasconcelos, M.H., Vibrational relaxational in CD_4 and CD_4–rare gas mixtures **88A** (1977) 395
De Vasconcelos, M.H. and De Vries, A.E., Vibrational relaxation time measurements in CH_4 and CH_4–rare gas mixtures **86A** (1977) 490
De Vries, A.E., see De Vasconcelos, M.H.
Dewel, G., The dynamical longitudinal correlation function of the Heisenberg model at low temperatures **82A** (1975) 365
Dewel, G., The dynamical longitudinal correlation function of the Heisenberg model at low temperatures. II. The hydrodynamic regime **89A** (1977) 245
Dewel, G., see Borckmans, P.
Dijkstra, J.J. and Van Leeuwen, W.A., Mathematical aspects of relativistic kinetic theory **90A** (1978) 450
Di Pippo, R., Dorfman, J.R., Kestin, J., Khalifa, H.E. and Mason, E.A., Composition dependence of the viscosity of dense gas mixtures **86A** (1977) 205
Dodonov, V.V., Malkin, I.A. and Man'ko, V.I., Coherent states and Green functions of relativistic quadratic systems **82A** (1975) 113
Doktorov, A.B., The impact approximation in the theory of bimolecular quasi-resonant processes **90A** (1978) 109
Domaradzki, J.A., The Liouville operator for the step-type interparticle interaction **86A** (1977) 169
Dorfman, J.A., see Di Pippo, R.
Dresden, M. and Chen, S.F., Solitons, Gauge theories and the "great Einstein theorem" **83A** (1976) 1
Dumont, M., About the MFA transition temperature for the transverse Ising model with a dipolar interaction **89A** (1977) 419
Dumont, M. and Dagonnier, R., Dipolar interaction in the transverse Ising model of H-bonded ferroelectrics **80A** (1975) 490
Dunlop, P.J., see Yabsley, M.A.
Dymond, J.H., The interpretation of transport coefficients on the basis of the Van der Waals model. II. Extension to dilute gases **79A** (1975) 65
Dymond, J.H., A modified hard-sphere theory for transport properties of fluids over the whole density range. II. Viscosity coefficients of diatomic molecules F_2 and O_2 . . . . . **85A** (1976) 175

Eggermont, G.E.J., Vestner, H. and Knaap, H.F.P., Influence of a magnetic field on diffusion and thermal diffusion in gaseous mixtures **82A** (1975) 23
Enz, C.P., Fokker–Planck description of classical systems with application to critical dynamics **89A** (1977) 1
Ernst, M.H., see De Schepper, I.M.
Eu, B.C., On surface integrals for triple collision integrals in kinetic theory of gases **88A** (1977) 159
Eu, B.C., Asymptotic solutions of Fokker–Planck equations for nonlinear irreversible processes and generalized Onsager–Machlup theory **90A** (1978) 288
Eu, B.C. and Li, K.-W., Kinetic theory of reacting systems **88A** (1977) 136

Falk, C.T., see Falk, H.
Falk, H. and Falk, C.T., Data cluster analysis: abrupt transition **90A** (1978) 325
Fanchiotti, H., García Canal, C.A. and Vucetich, H., The Hubbard identity and the absence of phase transitions in some spin systems **90A** (1978) 164
Fannes, M., Pulè, J.V. and Verbeure, A., The solutions of the classical KMS-equation for infinitely many non-interacting particles **86A** (1977) 177
Farquhar, I.E., see Robledo, A.
Fechner, B.J. and Pikula, R., Constant coupling approximation for antiferromagnets with mixed ferro- and antiferromagnetic interactions **79A** (1975) 433

Felderhof, B.U., Frictional properties of dilute polymer solutions. III. Translational-friction coefficient **80A** (1975) 63
Felderhof, B.U., Frictional properties of dilute polymer solutions. IV. Intrinsic viscosity **80A** (1975) 172
Felderhof, B.U., Rheology of polymer suspensions. I. Local flow effects . . **82A** (1975) 596
Felderhof, B.U., Rheology of polymer suspensions. II. Translation, rotation and viscosity **82A** (1975) 611
Felderhof, B.U., Force density induced on a sphere in linear hydrodynamics. I. Fixed sphere, stick boundary conditions **84A** (1976) 557
Felderhof, B.U., Force density induced on a sphere in linear hydrodynamics. II. Moving sphere, mixed boundary conditions **84A** (1976) 569
Felderhof, B.U., Fluctuations in the diffusion of particles in a non-uniform medium **88A** (1977) 305
Felderhof, B.U., Current density and field fluctuations in a conducting medium **89A** (1977) 205
Felderhof, B.U., Hydrodynamic interaction between two spheres **89A** (1977) 373
Felderhof, B.U. and Raval, S.P., Diamagnetism of a confined electron gas . **82A** (1975) 151
Felderhof, B.U., see Adu-Gyamfi, D.
Ferrari, L., On the three-term approximation of the solution of the Boltzmann equation for weakly ionized gases **81A** (1975) 276
Festa, R. and Galleani d'Agliano, E., Diffusion coefficient for a Brownian particle in a periodic field of force. I. Large friction limit **90A** (1978) 229
Fields, J.N. and Fogel, M.B., Real-space renormalization on a 3-D Ising model *(Letter to the Editor)* **80A** (1975) 411
Fleckinger,R., Gomes, A. and Soulet, Y., Statistical mechanics of composite particles. I. General formulation using a projection technique for the fixed ion plasma model **85A** (1976) 485
Fleury, P.A., see Rouch, J.
Fogel, M.B., see Fields, J.N.
Fortuin, C.M., On the theory of structural modulation of Na_2CO_3 . . . . . **86A** (1977) 224
Fortuin, C.M., Note on the calculation of electrostatic lattice potentials . . **86A** (1977) 574
Frøyen, S., Sudbø, A.A.S. and Hemmer, P.C., Ising models with two- and three-spin interactions: Mean field equation of state **85A** (1976) 399
Fujita, S., Theory of the self-diffusion (spin diffusion) coefficient of an electron gas **89A** (1977) 127
Fukui, Y. and Morita, T., Numerical evaluation for classical one-dimensional gas of hard rods with an interaction of finite range **79A** (1975) 83
Fukui, Y., see Morita, T.

Gaaff, A. and Hijmans, J., Symmetry relations in the sixteen-vertex model . **80A** (1975) 149
Gaaff, A. and Hijmans, J., The complete system of algebraic invariants for the sixteen-vertex model. I. Derivation via the three-dimensional orthogonal group **83A** (1976) 301
Gaaff, A. and Hijmans, J., The complete system of algebraic invariants for the sixteen-vertex model. II. Derivation by means of the theory of algebraic invariants **83A** (1976) 317
Gaemers, K.J.F., see Siskens, Th.J.
Galgani, L., see Benettin, G.
Galleani d'Agliano, E., see Festa, R.,
Gambardella, P.J., Nonlinear Dicke superradiance models: nonexistence of a phase transition **80A** (1975) 550
García Canal, C.A., see Fanchiotti, H.
García-Colin, L.S. and De la Selva, S.M.T., On the propagation of sound in chemically reacting fluids *(Erratum)* **80A** (1975) 321
Gates, D.J., Derivation of the classical theory of correlations in fluids by means of functional differentiation **81A** (1975) 47

Gau, R., see Kremp, D.
Gerlich, G., Eine Verallgemeinerung des Stratonovichverfahrens für Anwendungen in der statischen Mechanik **82A** (1975) 477
Gerlich, G. und Kagermann, H., Herleitung kinetischer Gleichungen mit dem verallgemeinerten Stratonovich-Verfahren **88A** (1977) 283
Gershon, N.D., see Aizenbud, B.M.
Gharbi, A. and Le Duff, Y., Collision-induced scattering for molecules . . . **87A** (1977) 177
Gharbi, A. and Le Duff, Y., Line shape of the collision-induced scattering in CF_4 **90A** (1978) 619
Gillespie, D.T., see Sengers, J.V.
Gilmore, R., Two nonlinear Dicke models **86A** (1977) 137
Giovannini, N., Invariance operator groups for a charged particle in an external electromagnetic field **87A** (1977) 546
Godoy, S.V., see Braun, E.
Goldstein, P. and Turski, L.A., The Vlasov equation for systems with velocity dependent interactions **89A** (1977) 481
Gomes, A., see Fleckinger, R.
Görtz, R., A connection between deterministic motion and the steady-state probability distribution **90A** (1978) 360
Gosar, P., Interaction of two-level tunneling system with phonons **85A** (1976) 374
Grappin, R.J.P., Acceleration of test particles in one-dimensional random force fields **88A** (1977) 435
Grecos, A., Guo, T. and Guo, W., Some formal aspects of subdynamics . . **80A** (1975) 421
Grecos, A.P. and Mareschal, M., Evolution of observables in a Laurent hamiltonian system **83A** (1976) 419
Gruber, C. and Hintermann, A., Group structure analysis for classical lattice systems with constraints. I. General properties **83A** (1976) 233
Gruber, C., see Hintermann, A.
Guo, T., see Grecos, A. **79A** (1975) 1
Guo, Th.C. and Guo, W.W., Dissipativity and the spectral property of the collision operator **79A** (1975) 120
Guo, W., see Grecos, A.
Guo, W.W., see Guo, Th.C.

Haberlandt, R., see Der, R.
Hafkenscheid, L.M. and Vlieger, J., On the dielectric properties of molecular crystals.II. First-order spatial dispersion and optical activity **79A** (1975) 517
Hafkenscheid, L.M. and Vlieger, J., On the dielectric properties of molecular crystals. III. Composite lattices **85A** (1976) 129
Hahn, H., see Decker, I.
Hall, A.G., Time-path method for the evolution of reduced density matrices in nonequilibrium systems **80A** (1975) 369
Hanley, H.J.M. and Watts, R.O., Molecular dynamics studies of an m–6–8 fluid **79A** (1975) 351
Hanley, H.J.M. and Cohen, E.G.D., Analysis of the transport coefficients for simple dense fluids: The diffusion and bulk viscosity coefficients **83A** (1976) 215
Hasenfratz, W. and Klein R., The interaction of a solitary wave solution with phonons in a one-dimensional model for displacive structural phase transitions **89A** (1977) 191
Hassan, M.H.A., Generalized Rosenbluth potentials **90A** (1978) 351
Haus, J.W. and Meijer, P.H.E., Static aspects of a model for metastable fluid states *(Letter to the Editor)* **80A** (1975) 313
Haynes, W.M., Measurements of the viscosity of compressed gaseous and liquid oxygen **89A** (1977) 569
Heilmann, O.J., see Abraham, D.B.
Hemmer, P.C., see Frøyen, S.
Heringa, J.R. and Marrenga, M., Ferromagnetic dipolar spinwaves **83A** (1976) 371

Hermans, L.J.F., see Van Ditzhuyzen, P.G.
Hess, S., Non-Newtonian viscosity and normal pressure associated with the flow alignment in macromolecular liquids **86A** (1977) 383
Hess, S., Dynamic viscosity of macromolecular liquids for a superposition of static and oscillating velocity gradients **87A** (1977) 273
Hess, W. and Klein, R., Theory of light scattering from a system of interacting Brownian particles **85A** (1976) 509
Heyde, K., see Waroquier, M.
Hijmans, J., see Gaaff, A.
Hijmans, J., see Mooy, B.H.M.
Hilhorst, H.J., Kinetics of clusters in a binary linear system **79A** (1975) 171
Hills, B.P., A generalized Langevin equation for the angular velocity of a spherical brownian particle from fluctuating hydrodynamics **80A** (1975) 360
Hills, B.P. and Deutch, J.M., Renormalization of the rotational diffusion coefficient in a fluctuating fluid **83A** (1976) 401
Hintermann, A. and Gruber, C., Group structure analysis for classical lattice systems with constraints. II. Zeroes of the partition function and unicity of states **84A** (1976) 101
Hintermann, A., see Gruber, C.
Hoare, M.R. and Kaplinsky, C.H., The approach to hard-sphere brownian motion: variational eigenfunctions and evaluation of the Rayleigh–Fokker–Planck equation **81A** (1975) 349
Holz, A., Sorgen, A. and Bennemann, K.H., Local critical behaviour at impurities in Ising-type systems **87A** (1977) 145
Horiguchi, T., see Morita, T.
Hornreich, R.M., Marshall Luban and Shtrikman, S., Exactly solvable model exhibiting a multicritical point **86A** (1977) 465
Horsthemke, W., see Malek-Mansour, M.
Horsthemke, W., see Van Den Broeck, C.
Høye, J.S. and Bedeaux, D., On the dielectric constant for a non-polar fluid, a comparison **87A** (1977) 288
Hoyningen-Huene, P., On the time and cell dependence of the coarse-grained entropy. I. . **82A** (1975) 417
Hoyningen-Huene, P., On the time and cell dependence of the coarse-grained entropy. II. . **83A** (1976) 584
Hsue, C.S., see Chen, K.G.
Huber, D.L., Validity of a generalized Nyquist relation **87A** (1977) 199
Hubert, D., Irreversibility in the hard-spheres gas: H theorem and the Gibbs relation **83A** (1976) 548
Hynes, J.T., Kapral, R. and Weinberg, M., Microscopic theory of brownian motion: Mori friction kernel and Langevin-equation derivation **80A** (1975) 105
Hynes, J.T., Kapral, R. and Weinberg, M., Microscopic theory of brownian motion. II. Nonlinear langevin equations **81A** (1975) 485
Hynes, J.T., Kapral, R. and Weinberg, M., Microscopic theory of brownian motion. III. The nonlinear Fokker–Planck equation **81A** (1975) 509
Hynes, J.T., Kapral, R. and Weinberg, M., Particle rotation and translation in a fluid with spin **87A** (1977) 427

Isihara, A. and Isihara, C.H., Condensation of a chain polymer molecule . . **81A** (1975) 623
Isihara, A., see Samulski, T.
Isihara, C.H., see Isihara, A.

Jacucci, G. and McDonald, I.R., Structure and diffusion in mixtures of raregas liquids **80A** (1975) 607

Jansen, H.J.F., see Meuwese, A.J.
Janssens, M. and Orban, J., Asymptotic behaviour of self-avoiding walks in continuous space **85A** (1976) 409
Jaspers, M., see Beckers, J.
Jelínek, J. and Nezbeda, I., Analytic solution of the Percus–Yevick equation for sticky hard sphere potential **84A** (1976) 175
Jones, R.B., Diffusion of polymers near a fluid–fluid interface or a wall . . . **83A** (1976) 72
Joshi, Y.P. and Singh, D.P., Thermal resistivity due to three-phonon normal processes **81** (1975) 475

Kagermann, H., Zur Begründung der Klimontovichnäherung **83A** (1976) 595
Kagermann, H., see Gerlich, G.
Kahol, P.K., Chaturvedi, D.K. and Pathak, K.N., Dynamical current correlations in simple liquids **87A** (1977) 192
Kalashnikov, V.P. and Auslender, M.I., Derivation of classical Markovian kinetic equations via generating functional technique **85A** (1976) 71
Kamieniarz, G., First order Green-function theory of isotropic Heisenberg ferromagnet **86A** (1977) 417
Kaplinsky, C.H., see Hoare, M.R.
Kapral, R., see Bedeaux, D.
Kapral, R., see Hynes, J.T.
Karkheck, J.P., The exact nonlinear driven response of a one-dimensional gas **89A** (1977) 57
Kats, A.V. and Kontorovich, V.M., Symmetry group of the kinetic equation and stationary distributions in a weakly turbulent plasma **86A** (1977) 471
Katsura, S., Glass-like phase on the close-packed lattices **88A** (1977) 583
Kawazoe, Y., see Yasuhara, H.
Kaye, R.D. and Burley, D.M., Square lattice calculations for the general dimer and trimer problems using the Kikuchi method **87A** (1977) 499
Kestin, J., Khalifa, H.E., Ro, S.T. and Wakeham, W.A., The viscosity and diffusion coefficients of eighteen binary gaseous systems **88A** (1977) 242
Kestin, J., Khalifa, H.E. and Wakeham, W.A., The viscosity and diffusion coefficients of the binary mixtures of xenon with the other noble gases . . **90A** (1978) 260
Kestin, J., see Clark, J.
Kestin, J., see Di Pippo, R.
Keyes, T. and Oppenheim, I., The self-diffusion constant for large heavy particles **81A** (1975) 241
Khalifa, H.E., see Di Pippo, R.
Khalifa, H.E., see Kestin, J.
Khanna, K.M. and Mehrotra, S.N., Three-level approximation for interacting boson transition-temperature calculation **81A** (1975) 311
Khanna, K.M. and Mehrotra, S.N., Radial distribution function and second virial coefficient for interacting bosons **85A** (1976) 616
Khanna, K.M. and Sinha, O.P., Structure for a Bose fluid **89A** (1977) 613
Khanna, K.M. and Mehrotra, S.N., Calculation of sound velocity and structure factor for interacting bosons **89A** (1977) 626
Khoury, F.M. and Kobayashi, R., Dense-gas diffusion coefficients in the methane–carbon tetrafluoride system by pulsed nuclear magnetic resonance. **80A** (1975) 1
Kidachi, H., see Tomita, K.
Klein, R., see Hasenfratz, W.
Klein, R., see Hess, W.
Klemm, A. and Zagrebnov, V.A., A compressible Dicke model (exact solution) **86A** (1977) 400
Kluitenberg, G.A., On dielectric and magnetic relaxation phenomena and vectorial internal degrees of freedom in thermodynamics **87A** (1977) 302

Kluitenberg, G.A., A thermodynamic discussion of the possibility of singular yield conditions in plasticity theory **88A** (1977) 123
Knaap, H.F.P., see Baas, F.
Knaap, H.F.P., see Eggermont, G.E.J.
Knaap, H.F.P., see Van Ditzhuyzen, P.G.
Knežević, G., Nikin, B. and Tošić, B.S., On some additional effects in Heisenberg ferromagnet caused by the presence of dipole–dipole interactions . . **90A** (1978) 333
Knops, H.J.F., On Kadanoff's approximate renormalization group transformation **86A** (1977) 448
Kobayashi, R., see Khoury, F.M.
Köhler, W.E., Current induced Kerr effect in weakly ionized gases in the presence of a magnetic field **86A** (1977) 159
Kontorovich, V.M., see Kats, A.V.
Kovac, J., Non-equilibrium thermodynamics of interfacial systems **86A** (1977) 1
Kovac, J., see Ronis, D.
Kowalski, J.M., see Braeter, H.
Kox, A.J., On relativistic kinetic gas theory. XVIII. Diffusion in a Lorentz gas of hard spheres **84A** (1976) 603
Kox, A.J., De Groot, S.R. and Van Leeuwen, W.A., On relativistic kinetic gas theory. XVI. The temperature dependence of the transport coefficients for a simple gas of hard spheres **84A** (1976) 155
Kox, A.J., Van Leeuwen, W.A. and De Groot, S.R., On relativistic kinetic gas theory. XVII. Diffusion and thermal diffusion in a binary mixture of hard spheres **84A** (1976) 165
Kox, A.J., see Anderson, J.L.
Kox, A.J., see De Groot, S.R.
Kox, A.J., see Van Leeuwen, W.A.
Kraeft, W.D., see Kremp, D.
Kratky, K.W., Fifth virial coefficient for a system of hard disks **85A** (1976) 607
Kratky, K.W., Fifth to tenth virial coefficients of a hard-sphere fluid . . . **87A** (1977) 584
Kremp, D., Gäu, R., Schlanges, M. and Kraeft, W.D., Second virial coefficient at low temperatures **86A** (1977) 613
Kreuzer, H.J., On the microscopic derivation of balance equations in hydrodynamics **80A** (1975) 585
Kreuzer, H.J. and Capri, A.Z., On the time evolution of large systems: A soluble model with two-body interactions **81A** (1975) 411
Kreuzer, H.J. and Zasada, C.S., Microscopic derivation of hydrodynamic balance equations in the presence of an electromagnetic field **83A** (1976) 573
Kreuzer, H.J. and Kurihara, Y., Time evolution in a two-component system with catalytic reactions **87A** (1977) 94
Kreuzer, H.J. and Teshima, R., Response of an ideal gas in an external potential **87A** (1977) 453
Kruger, A.J., Measurements and calculations of the particle flux of a binary gas mixture through a capillary generated by a concentration gradient **83A** (1976) 203
Krüger, J.G. and Poffyn, A., Quantum mechanics in phase space. I. Unicity of the Wigner distribution function **85A** (1976) 84
Krüger, J.G. and Poffyn, A., Quantum mechanics in phase space II. Eigenfunctions of the Liouville operator **87A** (1977) 132
Kurihara, Y., see Kreuzer, H.J.
Kuščer, I. and Corngold, N., Kinetic theory of diffusion in liquids: A hydrodynamic approximation **82A** (1975) 195

Lakshmanan, M., Ruijgrok, Th. W. and Thompson, C.J., On the dynamics of a continuum spin system **84A** (1976) 577

Lang, J.C., Jr. and Widom, B., Equilibrium of three liquid phases and approach to the tricritical point in benzene–ethanol–water–ammonium sulfate mixtures **81A** (1975) 190
Laranjeira,M.F., see Áurea Cunha, M.
Larsson, K.E., see Olsson, L.G.
Laskowski, B., Van Leuven, P. and Calais, J.-L., Alternant molecular-orbital excitations by the generator-coordinate method in the electron gas . . . **80A** (1975) 561
Lawson, J.O., Transport properties determinations of the one-dimensional, half-filled band Holstein–Fröhlich modified Hubbard model **89A** (1977) 139
Lawson, J.O., see Smith R.C.
Leaf, B., *S*-operator (matrix) formalism for the Liouville and Von Neumann equations and the approach to equilibrium **81A** (1975) 163
Le Duff, Y., see Gharbi, A.
Leff, H.S., see Siegert, A.J.F.
Legros, J.C., Longree, D., Chavepeyer, G. and Platten, J.K., On the two-component Bénard problem. A numerical solution **80A** (1975) 76
Lekkerkerker, H.N.W., Brownian motion and hydrodynamic fluctuations near the convective instability point *(Letter to the Editor)* **80A** (1975) 415
Lekkerkerker, H.N.W. and Van Oost, E., Geometry of the roots of hydrodynamic matrices in the dissipation-free limit *(Letter to the Editor)* . . . **84A** (1976) 628
Lekkerkerker, H.N.W., Coulon, Ph. and Luyckx, R., Dispersion forces between closed shell atoms **88A** (1977) 375
Lemarchand, H. and Nicolis, G., Long range correlations and the onset of chemical instabilities **82A** (1975) 521
Levelt Sengers, J.M.H., Critical exponents at the turn of the century . . . **82A** (1975) 319
Levine, R.D., see Procaccia, I.
Lewiner, C. and Calecki, D., On series expansions in a nonlinear electronic system **86A** (1977) 601
Lewis, J.C., Theory of intercollisional interference effects. V. Pressure shift of the interference minimum in the Q branch of H_2–rare gas mixtures . . . **82A** (1975) 500
Li, K.-W., see Eu, B.C.
Longree, D., see Legros, J.C.
Lugiato, L.A., Theory of open systems. I. **81A** (1975) 565
Lugiato, L.A., Theory of open systems. II. An application; the single-mode laser **82A** (1975) 1
Lugiato, L.A., Generalized regression theorem for open systems **85A** (1976) 18
Lugiato, L.A. and Milani, M., On the structure of the generalized master equation for open systems **85A** (1976) 1
Lukes, T., Ringwood, G.A. and Suprapto, B., A particle in a box in the presence of an electric field and applications to disordered systems **84A** (1976) 421
Luyckx, R., see Lekkerkerker, H.N.W.

Maass, W., Investigation of the stability of Boltzmann's collision equation by a family of Lyapunov functionals **89A** (1977) 411
Maclean, C., see Biemond, J.
Malakis, A., Hamiltonian walks and polymer configurations **84A** (1976) 256
Malek-Mansour, M., Brenig, L. and Horsthemke, W., Astochastic approach to the kinetic theory of gases **88A** (1977) 407
Malek-Mansour, M., see Van Den Broeck, C.
Malesińska, B. and Stecki, J., On the generalization of the Van der Waals equation of state for mixtures **80A** (1975) 300
Malkin, I.A., see Dodonov, V.V.
Mancini, F., see De Lillo, S.
Mandel, M., see Biemond, J.
Man'ko, V.I., see Dodonov, V.V.
Mareschal, M., see Grecos, A.P.

Marić, Z. and Popović-Božič, M., Diagonalization of the spin part of the exchange hamiltonian in the second-quartization method for composite particles **87A** (1977) 473
Marinković, M.M., see Pirić, M.
Marrenga, M., see Heringa, J.R.
Marshall Luban, see Hornreich, R.M.
Martina, B.E. and Del Río, E., Extended mean spherical approximation for electrolyte solutions **86A** (1977) 185
Martínez-Garcilazo, J.P., see Alexanian, M.
Mason, D.P. and McIlroy, D.K., On the theory of Wien dissociation for weak electrolytes **82A** (1975) 463
Mason, E.A., see Di Pippo, R.
Maugin, G.A., On the spin relaxation in deformable ferromagnets **81A** (1975) 454
Mayer, D.H., see Viswanathan, K.S.
Mazur, P., see Albano, A.M.
Mazur, P., see Bedeaux, D.
Mazur, P., see Boots, H.M.J.
Mazur, P., see Pasmanter, R.A.
McDonald, I.R., see Jacucci, G.
McGurn, A.R. and Tahir-Kheli, Raza A., Excitations in randomly diluted two-dimensional ferromagnets **86A** (1977) 553
McIlroy, D.K., see Mason, D.P.
Mehra, J., Einstein and the foundation of statistical mechanics **79A** (1975) 447
Mehrotra, S.N., see Khanna, K.M.
Meijer, P.H.E. and Scherer, W.D., An extended lattice model of liquid helium four **80A** (1975) 447
Meijer, P.H.E. and Stamm, W.C., Phase diagram and critical points for a metamagnetic Ising model using constant coupling approximation **90A** (1978) 77
Meijer, P.H.E., see Haus, J.W.
Meuwese, A.J., Jansen, H.J.F. and Tolhoek, H.A., Wave propagation according to higher order field equations I. **82A** (1975) 72
Michaels, I.A. and Oppenheim, I., Long-time tails and brownian motion . . **81A** (1975) 221
Michaels, I.A. and Oppenheim, I., Trilinear mode effects on transport coefficients **81A** (1975) 522
Michels, J.P.J. and Trappeniers, N.J., The self-diffusion coefficient in the gas phase at moderate densities, obtained by computer simulations **90A** (1978) 179
Micnas, R., Thermodynamic properties of ferromagnets with uniaxial and biaxial anisotropy **89A** (1977) 431
Mijnlieff, P.F., see Wiegel, F.W.
Milani, M., see Casagrande, F.
Milani, M., see Lugiato, L.A.
Monteiro, V., Some unusual elementary aspects of irreversibility **79A** (1975) 95
Mooy, B.H.M. and Hijmans, J., The end-to-end distribution function of a polymer chain with a pairwise additive self-interaction **82A** (1975) 543
Moraal, H., On the existence of the thermodynamic limit for classical systems with nonspherical potentials **79A** (1975) 75
Moraal, H., Derivation and spectrum of a generalized Kirkwood–Salsburg operator **81A** (1975) 469
Moraal, H., Statistical mechanics of linear molecules. I. Percus–Yevick and convolution-hypernetted-chain approximations **83A** (1976) 33
Moraal, H., Statistical mechanics of linear molecules. II. Density expansions, intermolecular potentials and virial coefficients **83A** (1976) 57
Moraal, H., Statistical mechanics of quasi-one-dimensional systems **85A** (1976) 425
Moraal, H., Spectral properties of the Kirkwood–Salsburg operator **87A** (1977) 331

Moreau, M., Formal study of a chemical reaction by Grad expansion of the Boltzmann equation. I **79A** (1975) 18
Moreau, M., Formal study of a chemical reaction by Grad expansion of the Boltzmann equation. II **79A** (1975) 39
Moreau, M., On the application of the Onsager–Machlup function to non-linear fluctuations of a thermodynamic variable **90A** (1978) 410
Morita, T., The Ising system with an interaction of finite range on the Cayley tree **83A** (1976) 411
Morita, T., Thermodynamic limit for the one-dimensional Ising systems with random interaction of finite range **87A** (1977) 117
Morita, T. and Horiguchi, T., Classical one-dimensional Heisenberg model with an interaction of finite range **83A** (1976) 519
Morita, T. and Fukui, Y., One-dimensional model of partially dissociated gases of homonuclear diatomic molecules **85A** (1976) 310
Morita, T., see Fukui, Y.
Morozov, V.G., Microscopic theory of hydrodynamic modes in a planar ferromagnet **90A** (1978) 196
Mountain, R.D. and Ruijgrok, Th. W., Monte-Carlo study of the Maier–Saupe model on square and triangular lattices **89A** (1977) 522
Musha, T., Theory of $1/f$ fluctuation of particle concentration in thermal equilibrium **80A** (1975) 387
Myerson, R.J., The Landau–Ginzburg–Wilson model in 2 and $2+\varepsilon$ dimensions at low temperatures **90A** (1978) 431

Nayfeh, A.H., Transient motions of bi-lattices **88A** (1977) 551
Nemtsov, V.B., Statistical hydrodynamics of cholesteric liquid crystals . . . **86A** (1977) 513
Nezbeda, I., see Jelínek, J.
Nicolis, G. and Turner, J.W., Stochastic analysis of a nonequilibrium phase transition: some exact results **89A** (1977) 326
Nicolis, G., see Lemarchand, H.
Niemeijer, Th. and Ruijgrok, Th. W., Renormalization group solution of the one-dimensional classical Heisenberg model **81A** (1975) 427
Niemeijer, Th. and Ruijgrok, Th.W., Phase transition in a linear chain of classical spins with a logarithmic nearest neighbour pair potential **86A** (1977) 200
Niemeijer, Th., see Ruijgrok, Th. W.
Niemeijer, Th., see Van den Berg, M.
Nightingale, M.P., Scaling theory and finite systems **83A** (1976) 561
Nijboer, B.R.A., On the many-body Van der Waals binding energy of a dense fluid **79A** (1975) 420
Nijboer, B.R.A., Some remarks on the theory of the dielectric constant of nonpolar dense gases **80A** (1975) 398
Nikin, B., see Knezević, G.
Nishigori, T., Binary collision expansion and partial Green's functions of Kadanoff–Baym **83A** (1976) 178
Nitzan, A., see Stone, J.P.
Nuyts, R. and Phariseau, P., The role of Frenkel excitons in low-energy electron diffraction theory for molecular crystals **90A** (1978) 260

Oldenziel, J.G. and Trappeniers, N.J., High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. I. High pressure NMR spectrometer and experimental technique **82A** (1975) 565
Oldenziel, J.G. and Trappeniers, N.J., High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. III. Density dependence of the proton magnetic shielding constants in the polar liquids methanol and ethanol **83A** (1976) 161

Oldenziel, J.G., see Trappeniers, N.J.
Olsson, L.G. and Larsson, K.E., Molecular motions in liquid ethane studied by cold neutron scattering **80A** (1975) 203
Omini, M., A theory of electric polarisation in liquids. I. Nonpolar liquids . . **83A** (1976) 431
Omini, M., A theory of electric polarisation in liquids. II. Polar liquids . . . **84A** (1976) 129
Omini, M., A theory of electric polarisation in liquids. III. Dielectric relaxation **84A** (1976) 492
Omini, M., A theory of electric polarisation in liquids. IV. Discussion of the approximations **88A** (1977) 478
Ono, Y., Tunneling junction as an open system. Normal tunneling **90A** (1978) 342
Oppenheim, I., Shuler, K.E. and Weiss, G.H., Stochastic theory of nonlinear rate processes with multiple stationary states **88A** (1977) 191
Oppenheim, I., see Bedeaux, D.
Oppenheim, I., see Keyes, T.
Oppenheim, I., see Michaels, I.A.
Oppenheim, I., see Pasmanter, R.A.
Oppenheim, I., see Ronis, D.
Oppenheim, I., see Yuan, H.H–H.
Orban, J., Phase transitions in lattice gases with attractions. Some approximate results **80A** (1975) 379
Orban, J., see Janssens, M.
Oudeman, P., see Baas, F.

Paauw, Th.T.A., Compagner, A. and Bedeaux, D., Monte-Carlo calculation for the classical f.c.c. Heisenberg ferromagnet **79A** (1975) 1
Paiva-Veretennicoff, I., see Balescu, R.
Pasmanter, R.A. and Oppenheim, I., Depolarized light scattered from a fluid near its Bénard instability **84A** (1976) 507
Pasmanter, R.A., Bedeaux, D. and Mazur, P., The ballast resistor; An electro-thermal instability in a conducting wire II; Fluctuations around homogeneous stationary states **90A** (1978) 151
Pasmanter, R.A., see Bedeaux, D.
Pathak, K.N., see Kahol, P.K.
Payne, Jr., A.C., see Anderson, J.L.
Perez-Esandi, J.J., see Sengers, J.V.
Perk, J.H.H., Capel, H.W., Zuilhof, M.J. and Siskens, Th.J., On a soluble model of an antiferromagnetic chain with alternating interactions and magnetic moments **81A** (1975) 319
Perk, J.H.H. and Capel, H.W., Time-dependent *xx*-correlation functions in the one-dimensional *XY*-model **89A** (1977) 265
Perk, J.H.H., Capel, H.W. and Siskens, Th.J., Time correlation functions and ergodic properties in the alternating *XY*-chain **89A** (1977) 304
Perk, J.H.H., Capel, H.W. and Den Ouden, L.W.J., Convex-envelope formulation for separable many-particle interactions **89A** (1977) 555
Perk, J.H.H., see Capel, H.W.
Perk, J.H.H., see Den Ouden, L.W.J.
Petrus, O., On the quantum kinetic equation for molecular gases. II. Noncentral interaction **82A** (1975) 273
Phariseau, P., see Nuyts, R.
Phariseau, P., see Van Keer, R.
Piasecki, J., see Cichocki, B.
Pikula, R., see Fechner, B.J.
Pirić, M., Marinković, M.M. and Tošić, B.S., Introduction to an an analysis of kinematical exciton levels **90A** (1978) 597
Platten, J.K., see Legros, J.C.

Plechko, V.N., see Bogolubov, Jr., N.N.
Poffyn, A., see Krüger, J.G.
Popielawski, J., On the Schwartz–Ehrenreich closure relations for correlation functions in simple fluids **81A** (1975) 145
Popović-Bozić, M., see Marić, Z.
Poulain, M., A covariant hamiltonian formulation of electrodynamics in Coulomb gauge **83A** (1976) 193
Poulain, M., see Balescu, R.
Poulis, N.J., see Wulffers, L.A.G.M.
Procaccia, I. and Levine, R.D., Rotational excitation of HD by collisions with He **82A** (1975) 623
Provost, J.P., Rocca, F., Vallee, G. and Sirugue, M., Lack of phase transition in the Dicke model with external fields **85A** (1976) 202
Prugovečki, E., see Twareque Ali
Pruisken, A.M.M., see Den Nijs, M.P.M.
Pulè, J.V., see Fannes, M.

Quisthoudt, M., see Rogiers, J.

Rasetti, M. and Regge, T., Vortices in He II, current algebras and quantum knots **80A** (1975) 217
Raval, S.P., see Felderhof, B.U.
Razavy, M., Remarks concerning the derivation and the expansion of the master equation **84A** (1976) 591
Rebsch, J.-T., Theory of linear response of a system in a strongly driven state with application to double resonance **84A** (1976) 143
Regge, T., see Rasetti, M.
Reichl, L.E., Nonlinear response to external magnetic fields **79A** (1975) 312
Reijnhart, R., New approximations to the virial equation of state for fluids . **83A** (1976) 533
Résibois, P., Solution de l'équation de Boltzmann pour des bâtonnets durs unidimensionnels **90A** (1978) 273
Résibois, P., see De Leener, M.
Résibois, P., see Theodosopulu, M.
Reynaert, M., see Dekeyser, R.
Ricci, F.P., see De Santis, A.
Rice, O.K. and Chang, D.R., Thermodynamic properties of fluids near the critical point, as interpreted by a simplified renormalization theory and the self-limitation of fluctuations **83A** (1976) 18
Rice, O.K. and Chang, D.R., Effect of the density-gradient term in the free energy expression on critical exponents **83A** (1976) 609
Ringwood, G.A., see Lukes, T.
Ro, S.T., see Kestin, J.
Robledo, A. and Farquhar, I.E., Random-walk theory and correlation functions in classical statistical mechanics **84A** (1976) 435
Robledo, A. and Farquhar, I.E., Random-walk theory and ordered phases in lattice-gas systems **84A** (1976) 449
Robledo, A. and Farquhar, I.E., Random-walk theory and the decay of pair correlations in Ornstein–Zernike lattice systems **84A** (1976) 472
Robledo, A., see Budgor, A.B.
Rocca, F., see Provost, J.P.
Rodríguez, R.F. and Van Kampen, N.G., A model for symmetries in nonlinear transport **82A** (1975) 352
Rodríguez, R.F. and Van Kampen, N.G., Systematic treatment of fluctuations in a nonlinear oscillator **85A** (1976) 347

Rogiers, J., Dekeyser, R. and Quisthoudt, M., Series expansions for a generalized XY hamiltonian. II. Tricritical behaviour of the Takagi model . . . **81A** (1975) 93
Rogiers, J. and Betts, D.D., Application of the renormalization group method to the $s = \frac{1}{2}XY$ model on the triangular lattice **85A** (1976) 553
Rogiers, J. and Tachiki, M., Spin ordering in spin-pair systems: The XY model in an external field **87A** (1977) 614
Rogiers, J., see Dekeyser, R.
Ronis, D. and Oppenheim, I., An exact treatment of some integrals appearing in the three-body contributions to transport coefficients **84A** (1976) 620
Ronis, D. and Oppenheim, I., Nonlinear response theory for inhomogeneous systems in various ensembles **86A** (1977) 475
Ronis, D., Kovac, J. and Oppenheim, I., Molecular hydrodynamics of inhomogenous systems: the origin of slip boundary conditions **88A** (1977) 215
Ronis, D., Bedeaux, D. and Oppenheim, I., On the derivation of dynamical equations for a system with an interface. I. General theory **90A** (1978) 487
Röpke, G., Isothermal resistivity for interacting charged particles in contact with a bath **86A** (1977) 147
Ross, J., see Stone, J.P.
Rouch, J., Boon, J.P. and Fleury, P.A., The principle of corresponding states and the dynamic properties of simple liquids **88A** (1977) 347
Ruijgrok, Th.W. and Niemeijer, Th., The classical one-dimensional Heisenberg magnet in an external magnetic field. Transfer matrix formalism as an application of renormalization group theory "avant la lettre" **84A** (1976) 336
Ruijgrok, Th. W., see Lakshmanan, M.
Ruijgrok, Th.W., see Mountain, R.D.
Ruijgrok, Th.W., see Niemeijer, Th.
Ruschin, S., see Ben-Aryeh, Y.

Sakun, V.P., Intermolecular spin–spin interactions in liquids **80A** (1975) 128
Samulski, T. and Isihara, A., Correlations in charged bosons **82A** (1975) 294
Samulski, T. and Isihara, A., Microscopic theory of liquid ^{4}He **86A** (1977) 257
Sanctuary, B.C., see Coope, J.A.R.
Santamaría, C.M., Savirón, J.M. and Yarza, J.C., Law of corresponding states and thermal-diffusion factor of Ne–Kr and Ar–Kr mixtures **83A** (1976) 615
Santamaría, C.M., Savirón, J.M. and Yarza, J.C., Law of corresponding states and thermal-diffusion factor of He–Ar mixtures from two-bulb measurements **84A** (1976) 212
Santamaría, C.M., Savirón, J.M., Yarza, J.C. and Carrión, J.A., Isotopic thermal diffusion factors of the noble gases **89A** (1977) 90
Sasvári, L., Schwabl, F. and Szépfalusy, P., Hydrodynamics of an n-component phonon system **81A** (1975) 108
Sasvári, L. and Szépfalusy, P., Dynamic critical properties of a stochastic n-vector model **87A** (1977) 1
Sasvári, L. and Szépfalusy, P., Critical dynamics of a stochastic n-vector model below T_c **90A** (1978) 626
Savirón, J.M., see Santamaria, C.M.
Scheire, L., The electronic structure of arbitrarily shaped atomic clusters, A formal MSW approach **81A** (1975) 613
Scheire, L., On the calculation of the transition matrix for an arbitrary potential **84A** (1976) 188
Scheire, L., On the electronic energy spectrum of linear models for disordered systems **88A** (1977) 607
Scherer, W.D., see Meijer, P.H.E.
Schlanges, M., see Kremp, D.

Schneider, T., Stoll, E. and Beck, H., Exactly soluble models for distortive structural phase transitions **79A** (1975) 201
Schouten, J.A., Deerenberg, A. and Trappeniers, N.J., Vapour–liquid and gas–gas equilibria in simple systems. IV. The system argon–krypton **81A** (1975) 151
Schulman, L.S., Phase transitions with several order parameters **89A** (1977) 597
Schwabl, F., see Sasvári, L.
Schwendimann, P., see Das
Seiden, J., Ondes de spin dans un verre magnétique classique **90A** (1978) 507
Sengers, J.V., Gillespie, D.T. and Perez-Esandi, J.J., Three-particle collision effects in the transport properties of a gas of hard spheres **90A** (1978) 365
Shah, V.L., see Clark
Shalitin, D., Constraints, phase transitions and critical indices **86A** (1977) 457
Sharma, K.C., see Sharma, R.V.
Sharma, R.V. and Sharma, K.C., The structure factor and the transport properties of dense fluids having molecules with square well potential, a possible generalization **89A** (1977) 213
Shimizu, T., Nonlinear-closed equations for the first and the second moments of macroscopic variables **83A** (1976) 486
Shimizu, T., On the relation between linear and nonlinear kinetic equations . **85A** (1976) 147
Shtrikman, S., see Hornreich, R.M.
Shuler, K.E., see Oppenheim, I.
Sicotte, Y., see Brostow, W.
Siegert, A.J.F., Vezzetti, D.J. and Leff, H.S., Comments on renormalization group series **89A** (1977) 427
Singh, D.P., see Joshi, Y.P.
Singh, S., On the second dielectric virial coefficient of nonspherical polar fluids **89A** (1977) 219
Singh, S. and Singh, Y., Virial coefficients of the equation of state of a gas of nonspherical molecules, I. Nonpolar molecules **83A** (1976) 339
Singh, S. and Singh, Y., Second dielectric virial coefficient of a fluid of nonspherical molecules **87A** (1977) 202
Singh, S. and Singh, Y., Virial coefficients of the equation of state of a gas of nonspherical molecules II. Polar molecules **87A** (1977) 344
Singh, Y., see Singh, S.
Sinha, O.P. see Khanna, K.M.
Sirugue, M., see Provost, J.P.
Siskens, Th.J., Capel, H.W. and Gaemers, K.J.F., On a soluble model of an antiferromagnetic chain with Dzyaloshinsky interactions. I **79A** (1975) 259
Siskens, Th.J., and Capel, H.W., On a soluble model of an antiferromagnetic chain with Dzyaloshinsky interactions. II **79A** (1975) 296
Siskens, Th.J. and Van Weert, Ch.G., Relativistic kinetic theory of quantum systems. IV. Transport equation for the neutrino component of an $e\bar{e}\nu_e\bar{\nu}_e$-mixture **86A** (1977) 80
Siskens, Th.J. and Van Weert, Ch.G., Relativistic kinetic theory of quantum systems. V. Transport equations for the massive components of an $e\bar{e}\nu_e\bar{\nu}_e$-mixture **87A** (1977) 369
Siskens, Th.J. and Van Weert, Ch.G., Transition amplitudes and probabilities for the Weinberg–Salam model **89A** (1977) 163
Siskens, Th.J., see Capel, H.W.
Siskens, Th.J., see Perk, J.H.H.
Siskens, Th.J., see Van Dongen, E.J.
Sisson, P.N.M., An extension of Kaufmann's transfer-matrix method in the Ising model **80A** (1975) 595
Skrobiś, K. and Westwański, B., Zero-point effects in biquadratic exchange systems **83A** (1976) 257

Skrobiś, K., see Westwański, B.
Smit, C.H. and Vertogen, G., Exact renormalization transformation for the one-dimensional Ising model with finite range interaction **87A** (1977) 623
Smith, R.C. and Lawson, J.O., A modified Green's function determination of the conduction and insulator limit conductivities of the one-dimensional, half-filled band, Hubbard model **83A** (1976) 505
Smith, U.L., see Van Rijswijk, F.C.
Sorba, P., see Combe, Ph.
Sorgen, A., see Holz, A.
Soulet, Y., see Fleckinger, R.
Spohn, H., Spectral properties of Liouville operators and their physical interpretation **80A** (1975) 323
Sridhar, R., A note on the multi-branch structure of the excitation spectra in liquid helium II **80A** (1975) 405
Stamm, W.C., see Meijer, P.H.E.
Stavn, M.J., Several properties of the KSA nondiagrammatic cluster $\chi'(r)$ . . **87A** (1977) 158
Stecki, J., see Malesińska, B.
Stecki, J., see Wojnar, R.
Stella, A.L. and Toigo, F., Renormalization and scaling of a two-dimensional Ising system in a transverse field at $T_c > 0$ **89A** (1977) 175
Stoll, E., see Schneider, T.
Stolz, H., Theory of interacting bosons without anomalous propagators . . **86A** (1977) 111
Stone, J.P., Nitzan, A. and Ross, J., Superradiance and energy transfer within a system of atoms **84A** (1976) 1
Sudbø, A.A.S., see Frøyen, S.
Suprapto, B., see Lukes, T.
Suramlishvili, G.I., Interaction of an Electromagnetic wave with oscillations in solids **84A** (1976) 411
Suzuki, M., Fluctuation in superradiance **84A** (1976) 48
Suzuki, Masuo, Scaling theory of fluctuation in superradiance relaxation from the complete inversion **86A** (1977) 622
Suzuki, M., see Arimitsu, T.
Szépfalusy, P., see Sasvári, L.

Tachiki, M., see Rogiers, J.
Tahir-Kheli, Raza A., See McGurn, A.R.
Takatsuji, M., A renormalization approach to many-atom radiation processes **84A** (1976) 68
Tanaka, T., see Chan E.M.
Teshima, R., see Kreuzer, H.J.
Theodosopulu, M. and Résibois, P., Kinetic approach to the long-time behaviour in fluids. III. The one-particle propagator **82A** (1975) 47
Theumann, W.K., Scaling function for order-parameter correlations in expansion to order $1/n$. I. Short-range interactions **80A** (1975) 25
Theumann, W.K., Scaling function for two-point correlations with long-range interactions to order $1/n$ **83A** (1976) 85
Thijsse, B.J., see Van Ditzhuyzen, P.G.
Thompson, C.J., On a model of molecular field deterioration **79A** (1975) 113
Thompson, C.J., see Lakshmanan, M.
Timmermans, J. and Zijlstra, R.J.J., Photon time-interval statistics of laser light scattered by brownian particles **88A** (1977) 600
Tindemans, P.A.J. and Capel, H.W., On the free energy in systems with separable interactions. III **79A** (1975) 478
Tindemans, P.A.J., see Den Ouden, L.W.J.
Tjon, J.A., see Courtenay Lewis, J.
Tjon, J.A., see Van Himbergen, J.E.

Todani, K., see Tomita, K.
Toigo, F., see Stella, A.L.
Tolhoek, H.A., A non-relativistic wave equation of second order in time for scalar fields **81A** (1975) 535
Tolhoek, H.A., Higher order field equations II; limit properties of Green's functions **86A** (1977) 278
Tolhoek, H.A., see Meuwese, A.J.
Tomita, K., Todani, K. and Kidachi, H., Irreversible circulation and the undamped spiking in lasers **84A** (1976) 350
Tonchev, N.S., see Brankov, J.G.
Tošić, B.S., see Kneževic, G.
Tošić, B.S., see Pirić, M.
Trappeniers, N.J., Wassenaar, T. and Wolkers, G.J., Isotherms and thermodynamic properties of ethylene at temperatures between 0 and 150°C and at densities up to 500 amagat **82A** (1975) 305
Trappeniers, N.J. and Oldenziel, J.G., High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. II. Density dependence of the proton magnetic shielding constants in the non-polar gases methane and ethylene **82A** (1975) 581
Trappeniers, N.J. and Oldenziel, J.G., High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. IV. Density dependence of the ^{13}C–H indirect spin–spin coupling constant in gaseous methane **83A** (1976) 173
Trappeniers, N.J., see Michels, J.P.J.
Trappeniers, N.J., see Oldenziel, J.G.
Trappeniers, N.J., see Schouten, J.A.
Turner, J.W., see Nicolis, G.
Turski, L.A., see Goldstein, P.
Twareque Ali, S. and Prugovečki, E., Classical and quantum statistical mechanics in a common Liouville space **89A** (1977) 501

Udayan, De, see Bhanja, S.
Ueyama, H., Note on Boltzmann–Langevin equation and hydrodynamic fluctuations **80A** (1975) 98
Ueyama, H., On nonlinear irreversible processes I **84A** (1976) 392
Ueyama, H., On nonlinear irreversible processes II. The case of even and odd variables **84A** (1976) 402
Ueyama, H., Note on Boltzmann–Langevin equation and hydrodynamic fluctuations (Erratum) **86A** (1977) 629

Vallee, G., see Provost, J.P.
Van de Braak, H.P., Caspers, W.J., De Lange, C. and Willemse, M.W.M., The determination of the ground-state energy of an antiferromagnetic lattice by means of a renormalization procedure **87A** (1977) 354
Van den Berg, M. and Niemeijer, Th., The zero-distribution of the great partition function in the complex fugacity plane of gases of point particles with logarithmic interaction **85A** (1976) 186
Van Den Broeck, C., Horsthemke, W. and Malek-Mansour, M., On the diffusion operator of the multivariate master equation **89A** (1977) 339
Van den Meijdenberg, C.J.N., see Bredewout, J.W.
Van der Kolk, C.M. and De Kerf, E.A., A simplified proof of the Bogoliubov–Parasiuk theorem **80A** (1975) 339
Van der Meij, L.K., see Van Ditzhuyzen, P.G.

Van Ditzhuyzen, P.G., Thijsse, B.J., Van der Meij, L.K., Hermans, L.J.F. and Knaap, H.F.P., The viscomagnetic effect in polar gases **88A** (1977) 53
Van Ditzhuyzen, P.G., Hermans, L.J.F. and Knaap, H.F.P., The temperature dependence of the viscomagnetic effect in the hydrogen isotope **88A** (1977) 452
Van Dongen, E.J., Capel, H.W. and Siskens, Th.J., On the anisotropic Heisenberg chain **79A** (1975) 617
Van Dongen, E.J. and Capel, H.W., On the susceptibility of the one-dimensional Ising chain **84A** (1976) 285
Van Erkelens, H. and Van Leeuwen, W.A., Relativistic Boltzmann theory for a plasma I. The entropy production **89A** (1977) 113
Van Erkelens, H. and Van Leeuwen, W.A., Relativistic Boltzmann theory for a plasma. II. Reciprocal relations **89A** (1977) 225
Van Erkelens, H. and Van Leeuwen, W.A., Relativistic Boltzmann theory for a plasma. III. Viscous phenomena **90A** (1978) 97
Van Hemmen, J.L. and Vertogen, G., A note on Fermi lattice systems with bilinear hamiltonians (the *XY* model once more) **81A** (1975) 391
Van Himbergen, J.E., The Faddeev equations for the Heisenberg ferromagnet **86A** (1977) 93
Van Himbergen, J.E. and Tjon, J.A., Three-magnon bound states in the two-dimensional isotropic and anisotropic Heisenberg ferromagnet **82A** (1975) 389
Van Kampen, N.G., see Rodríguez, R.F.
Van Keer, R. and Phariseau, P., Quantum transport equations for vibrating isotopically disordered crystals **90A** (1978) 245
Van Leeuwen, J.M.J., see Den Nijs, M.P.M.
Van Leeuwen, W.A., On the inadequacy of Sonine polynomials in kinetic theory *(Letter to the Editor)* **80A** (1975) 318
Van Leeuwen, W.A., On relativistic kinetic gas theory. XV. The Ritz method in relativistic Boltzmann theory **81A** (1975) 249
Van Leeuwen, W.A., Kox, A.J. and De Groot, S.R., On relativistic kinetic gas theory. XIV. Transport coefficients of a binary mixture. General expressions **79A** (1975) 233
Van Leeuwen, W.A., see De Groot, S.R.
Van Leeuwen, W.A., see Dijkstra, J.J.
Van Leeuwen, W.A., see Kox, A.J.
Van Leeuwen, W.A., see Van Erkelens, H.
Van Leuven, P., see Laskowski, B.
Van Loef, J.J., The corrected Enskog theory and the transport properties of molecular liquids **87A** (1977) 258
Van Oost, E., see Lekkerkerker, H.N.W.
Van Rijswijk, F.C. and Smith, U.L., Fluctuations in doubly scattered laser light **83A** (1976) 121
Van Vliet, K.M., MacDonald's theorem and Milatz's theorem for multivariate stochastic processes **86A** (1977) 130
Van Vliet, K.M. and Zijlstra, R.J.J., On the interaction of a black-body radiation field with a photoconductor **89A** (1977) 353
Van Weert, Ch.G., On the covariant equations of motion with explicit radiation damping. II. Comparison with the theory of Bhabha and Harish-Chandra . **80A** (1975) 234
Van Weert, Ch.G., On the covariant equations of motion with explicit radiation damping. III. The Lorentz–Dirac equation and its generalization to a magnetic dipole particle **80A** (1975) 247
Van Weert, Ch.G. and De Boer, W.P.H., Relativistic kinetic theory of quantum systems. I. Wigner functions for a relativistic spin-$\frac{1}{2}$ system **81A** (1975) 597
Van Weert, Ch.G., see De Boer, W.P.H.
Van Weert, Ch.G., see Siskens, Th.J.
Varatharajulu, V. and Vezzetti, D.J., Depolarized light scattering from simple fluids **85A** (1976) 623

Verbeure, A., see Fannes, M.
Verheggen, Th.M.M., Mean power transmission for one-dimensional random wave propagation using a cumulant expansion **90A** (1978) 606
Vermesse, J. et Vidal, D., Comparaison entre la viscosité des gaz rares denses et la viscosité modèles statistiques **86A** (1977) 429
Vertogen, G., see Smit, C.H.
Vertogen, G., see Van Hemmen, J.L.
Vestner, H. and Waldmann, L., Generalized hydrodynamics of thermal transpiration, thermal force and friction force **86A** (1977) 303
Vestner, H., see Eggermont, G.E.J.
Vestner, H., see Waldmann, L.
Vezetti, D.J., see Siegert, A.J.F.
Vezzetti, D.J., see Varatharajulu, V.
Vidal, D., see Vermesse, J.
Vigfusson, J.O., On the linear chain with arbitrary masses and force constants. I. Correlation functions **85A** (1976) 211
Vigfusson, J.O., On the linear chain with arbitrary masses and force constants. II. Ergodic properties **85A** (1976) 237
Vikhrenko, V.S. and Bokun, G.S., Truncation procedure for high order reduced distribution functions **90A** (1978) 587
Vincx, H., see Waroquier, M.
Viswanathan, K.S. and Mayer, D.H., Statistical mechanics of one-dimensional Ising and Potts models with exponential interactions **89A** (1977) 97
Vlieger, J. and Bedeaux, D., A phenomenological theory of light scattering by surfaces. I. General theory **82A** (1975) 221
Vlieger, J. and Bedeaux, D., A phenomenological theory of light scattering by surfaces. II. Rough surfaces **85A** (1976) 389
Vlieger, J., see Hafkenscheid, L.M.
Vstovsky, V.P., Projection formalism in the kinetic theory **83A** (1976) 454
Vucetich, H., see Fanchiotti, H.

Wagh, A.S., Green function theory of dynamic conductivity **81A** (1975) 369
Wagh, A.S., A perturbation solution to generalized linear Boltzmann equation **90A** (1978) 137
Wakeham, W.A., see Kestin, J.
Walasek, K., Generating functional approach to the Green's functions diagrammatic technique for spin and pseudospin lattice systems. I. General theory **88A** (1977) 497
Walasek, K., Generating functional approach to the Green's functions diagrammatic technique for spin and pseudospin lattice systems. II. Diagrammatic method for generalized Pauli operators **88A** (1977) 517
Waldmann, L. and Vestner, H., On the theory of boundary conditions . . . **80A** (1975) 523
Waldmann, L., see Vestner, H.
Walgraef, D., see Borckmans, P.
Wang, P.K.C., Phase-invariant solutions of nonlinear wave–wave interacting systems **81A** (1975) 441
Wangsness, R.K., Minimum entropy production and logarithmic rate equations **79A** (1975) 543
Waroquier, M., Heyde, K. and Vincx, H., A phase-consistent derivation of the electromagnetic multipole operators **80A** (1975) 465
Wassenaar, T., see Trappeniers, N.J.
Watts, R.O., see Hanley, H.J.M.
Wehner, R.K. and Baeriswyl, D., Equation of state of a classical anharmonic oscillator **81A** (1975) 129
Weinberg, M., Light scattering from a system with vibrational degrees of freedom: approximate calculation of dispersion relations *(Letter to the Editor)*. **79A** (1975) 256

Weinberg, M., see Hynes, J.T.
Weiss, G.H., see Oppenheim, I.
Westwański, B. and Skrobiś, K., Low-temperature spectrum and damping of elementary exitations in biquadratic exchange systems ($S = 1$) **87A** (1977) 515
Westwański, B., see Skrobiś, K.
Widom, B., see Lang, J.C., Jr.
Wiegel, F.W., Distribution of pore-size in an exactly solvable two-dimensional biomembrane model **89A** (1977) 397
Wiegel, F.W. and Mijnlieff, P.F., Comments on the Debije–Brinkman equation **85A** (1976) 207
Wiegel, F.W. and Mijnlieff, P.F., Intrinsic viscosity and friction coefficient of permeable macromolecules in solution **89A** (1977) 385
Willemse, M.W.M., see Van de Baak, H.P.
Williams, M.M.R., A fluctuation problem in particle transport theory I . . . **86A** (1977) 535
Williams, M.M.R., A fluctuation problem in particle transport theory II . . . **88A** (1977) 561
Winkelmann, J., Zur Theorie polarer Multikomponentsysteme **83A** (1976) 276
Wojnar, R. and Stecki, J., Kinetic equation for the dilute Lorentz gas with attractive forces **84A** (1976) 316
Wolkers, G.J., see Trappeniers, N.J.
Wootters, W.K., Bogoliubov transformation for a spatially varying gap . . . **90A** (1978) 317
Wu, F.Y., see Chen, K.G.
Wulffers, L.A.G.M. and Poulis, N.J., Determination of isotropic and anisotropic Knight shift in V_3X compounds **79A** (1975) 503

Yabsley, M.A. and Dunlop, P.J., A study of the two-bulb method for measuring diffusion coefficients of binary gas mixtures **85A** (1976) 160
Yamazaki, Y., Critical behavior in anisotropic cubic systems with long-range interactions **90A** (1978) 535
Yamazaki, Y., Critical behavior in random-spin systems with long-range interactions **90A** (1978) 547
Yamazaki, Y., Crossover exponent to order $\epsilon^3 (\epsilon = 4 - d)$ in isotropic N-component spin systems **90A** (1978) 58
Yarza, J.C., see Santamaría, C.M.
Yasuhara, H. and Kawazoe, Y., A note on the momentum distribution function for an electron gas **85A** (1976) 416
Yuan, H.H.–H. and Oppenheim, I., Transport in two dimensions. I. The self-diffusion coefficient **90A** (1978) 1
Yuan, H.H.–H. and Oppenheim, I., Transport in two dimensions. II. The thermal conductivity coefficient **90A** (1978) 21
Yuan, H.H–H. and Oppenheim, I., Transport in two dimensions. III. Self-diffusion coefficient at low densities **90A** (1978) 561
Yukalov, V.I., Quantum crystal with jumps of particles **89A** (1977) 363
Yulmetyev, R.M., Application of methods of the scattering theory in the statistical theory of liquids **84A** (1976) 82

Zagrebnov, V.A., see Brankov, J.G.
Zagrebnov, V.A., see Klemm, A.
Zasada, C.S., see Kreuzer, H.J.
Zijlstra, R.J.J., see Timmermans, J.
Zijlstra, R.J.J., see Van Vliet, K.M.
Zuilhof, M.J., see Perk, J.H.H.

ANALYTICAL SUBJECT INDEX

Absorption of sound (see *Sound propagation*)
Action principle (see *First-order equations*)
Acoustics (see *Potential waves*)
Acoustic Waves (see *Langmuir plasmons*)
Adiabatic sound velocity (see *Principle of corresponding states*)
Adiabatic variations (see *Deformable ferromagnets*)
Aerosds
– Generalized hydrodynamics of thermal transpiration, thermal force and friction force-Vestner and Waldmann **86A** (1977) 303
Alignment of non-polar molecules
– Dielectric alignment of a non-polar molecule substituting a polar molecule in a lattice of molecular dipoles-Biemond **88A** (1977) 385
Alignment of a polar molecule
– On the theory of the—in a non-polar solvent-Biemond *et al.* **83A** (1976) 358
Alloys (see *Atomic cluster probabilities and Knight shift*)
Alternating interactions
– On a soluble model of an antiferromagnetic chain with—and magnetic moments - Perk *et al* **81A** (1975) 319
Angular excitation (see *Brownian motion*)
Angular-momentum eigenfunctions
– A phase-consistent derivation of the electromagnetic multipole operators - Waroquier *et al* **80A** (1975) 465
Angular momentum polarizations (see *Viscomagnetic effect*)
Anharmonic lattices (see *Anharmonic oscillator*)
Anharmonic oscillator
– Equation of state of a classical— Wehner and Baeriswyl **81A** (1975) 129
Anisotropic cubic systems
– Critical behavior in – with long-range interactions - Yamazaki **90A** (1978) 535
Anisotropic ferromagnets (see *Three-magnon bound states*)
Antiferromagnetic chain
– On a soluble model of an—with Dzyaloshinsky interactions. I - Siskens *et al.* **79A** (1975) 259
– On a soluble model of an—with Dzyaloshinsky interactions. II - Siskens *et al* **79A** (1975) 296
– On a soluble model of an—with alternating interactions and magnetic moments - Perk *et al* **81A** (1975) 319
Antiferromagnetic exchange
– Glass-like phase on the close packed lattices - Katsura **88A** (1977) 583
Antiferromagnetic interactions (see also *Separable interactions*)
– Constant coupling approximation for antiferromagnets with mixed ferro and— Fechner and Pikula **79A** (1975) 433
Antiferromagnetic lattice
– The determination of the ground-state energy of an—by means of a renormalization procedure - Van de Braak et al **87A** (1977) 354
Antiferromagnetic phase (see *Spin waves*)

Antiferromagnets
– Constant coupling approximation for—with mixed ferro- and antiferromagnetic interactions - Fechner and Pikula **79A** (1975) 433
Antineutrino gas (see *Neutrino–antineutrino system*)
Argon (see *Atomic scattering, Binary diffusion of monatomic gases, Bulk viscosity, Flow birefringence, metastable fluid states, mixtures of rare-gas liquids, Noble gases, Van der Waals equation of state, Vapour–liquid equilibrium, Viscosity of gases*)
Argon–krypton mixtures (see *Thermal diffusion*)
AsH_3 (see *Viscomagnetic effect*)
Astrophysics (see *Neutrino gas*)
Atomic and molecular structure (see *Dirac–Heisenberg exchange hamiltonian*)
Atomic beams (see *Atomic scattering*)
Atomic cluster probabilities
– Iterative method for the calculation of—from pair correlations in binary systems - De Ridder **79A** (1975) 217
Atomic clusters
– The electronic structure of arbitrarily shaped—. A formal MSW approach - Scheire **81A** (1975) 613
Atomic interaction potential (see *Atomic scattering*)
Atomic inversion
– Theory of open systems. II. An application; the ligand-mode laser - Lugiato . **82A** (1975) 1
Atomic scattering
– Glory undulations in the total cross section for scattering of— Bredewout *et*
– Glory undulations in the total cross section for scattering of—- Bredewout *et al.* **85A** (1976) 28
Atom–molecule collisions (see *Rotational relaxation*)
Attenuation (see *Light scattering*)
Attractive forces (see *Lattice gases*)
Autocorrelation function (see *Antiferromagnetic chain, Fluctuation spectra, One-dimensional XY–model*)

Balance equations
– On the microscopic derivation of—in hydrodynamics - Kreuzer **80A** (1975) 585
Balescu–Lenard equation(s) (see *Generalized Rosenbluth potentials, Stratonovich's method*)
Bath-system correlations (see *Open systems*)
Ballast resistor
– The—; an electro-thermal instability in a conducting wire I; the nature of the stationary states - Bedeaux et al. **86A** (1977) 355
– The—; An electro-thermal instability in a conducting wire II; Fluctuations around homogeneous stationary states - Pasmanter et al. **90A** (1978) 151
Baxter's vertex model (see Sixteen-vertex model)
BCS superconductor
– Effects of lattice distortion of the energy gap of a – - Brankov and Tonchev . **84A** (1976) 371
BCS theory (see *Electromagnetic multipole operators*)
Bénard instability
– Depolarized light scattered from a fluid near its— Pasmanter and Oppenheim . **84A** (1976) 507
Benzene–ethanol–water–ammonium sulfate mixtures
– Equilibrium of three liquid phases and approach to the tricritical point in— Lang and Widom **81A** (1975) 190
Bethe lattice (see *Cayley tree*)
Bi-lattices
– Transient motions of— Nayfeh **88A** (1977) 551
Bilinear hamiltonians
– A note on Fermi lattice systems with bilinear hamiltonians (the *XY* model once more) - Van Hemmen and Vertogen **81A** (1975) 391

Bilinear hydrodynamics (see *Brownian motion*)
Bilinear response theory (see *Scattering of light from a fluid*)
Bimolecular chemical reactions (see *Chemical kinetics and Gasphase chemical reaction*)
Bimolecular quasi-resonant processes
- The impact approximation in the theory of—- Doktorov **90A** (1978) 109
Binary collision expansion
- —and partial Green's functions of Kadanoff–Baym - Nishigori **83A** (1976) 178
Binary diffusion of monatomic gases
- The viscosity and diffusion coefficients of the binary mixtures of xenon with the other noble gases - Kestin et al. **90A** (1978) 215
Binary gaseous systems
- The viscosity and diffusion coefficients of eighteen— Kestin et al. **88A** (1977) 242
Binary gas mixture(s)
- Measurements and calculations of the particle flux of a—through a capillary generated by a concentration gradient - Kruger **83A** (1976) 203
- A study of the two-bulb method for measuring diffusion coefficients— Yabsley and Dunlop **85A** (1976) 160
Binary mixture of hard spheres
- On relativistic kinetic gas theory. XVII. Diffusion and thermal diffusion in a— Kox *et al.* **84A** (1976) 165
Binary mixture(s) (see also *Vapour–liquid equilibrium*)
- Alignment of polarizable dipoles on a lattice - Biemond *et al.* **79A** (1975) 52
- On relativistic kinetic gas theory. XIV. Transport coefficients of a—. General expressions - Van Leeuwen *et al.* **79A** (1975) 233
Binary mixtures of dilute gases
-Influence of a magnetic field on diffusion and thermal diffusion in gaseous mixtures - Eggermont *et al.* **82A** (1975) 23
Binary mixtures of fluids
- Hydrodynamic equations and VH light scattering from—of nonspherical molecules - Aizenbud and Gershon **89A** (1977) 461
Binary of liquid mixtures (see *Mixtures of rare-gas liquids*)
Binary systems
- Iterative method for the calculation of atomic cluster probabilities from pair correlations in - De Ridder **79A** (1975) 217
Biomembranes (see *Two-dimensional biomembrane model*)
Birefringence (see *Flow Birefringence, Heat-flow birefringence, Kerr effect*)
Biquadratic exchange interaction
- Low-temperature spectrum and damping of elementary excitations in biquadratic exchange systems ($S = 1$) - Westwański and Skrobiś **87A** (1977) 515
Biquadratic exchange systems
- Zero-point effects in— Skrobiś and Westwański **83A** (1976) 257
Biquadratic interactions
- Planar classical Heisenberg model with— Chen *et al.* **87A** (1977) 629
Black-body radiation
- On the interaction of a—field with a superconductor - Van Vliet and Zijlstra **89A** (1977) 353
Bloch equation (see *Landau–Lifshitz friction*)
Bogoliubov–Parasiuk theorem
- A simplified proof of the— Van der Kolk and De Kerf **80A** (1975) 339
Boltzmann collision process (see *Kinetic theory of gases*)
Boltzmann equation (see also *Self-diffusion constant*)
- Formal study of a chemical reaction by Grad expansion of the—. I - Moreau **79A** (1975) 18
- Formal study of a chemical reaction by Grad expansion of the—. II - Moreau **79A** (1975) 39
- On the three-term approximation of the solution of the—for weakly ionized gases - Ferrari **81A** (1975) 276

Boltzmann–Langevin equation
– Note on—and hydrodynamic fluctuations - Ueyama **80A** (1975) 98
Boltzmann's collision equation
– Investigation of the stability of—by a family of Lyapunov functionals - Maass **89A** (1977) 411
Boltzmann transport equation (see *Thermal resistivity*)
Born–Green–Yvon equation (see *Schwarz–Ehrenreich closure relations*)
Boron systems (see *Excitation spectra*)
Bose–Einstein condensation
–Microscopic theory of liquid ^{4}He - Samulski and Isihara **86A** (1977) 257
– Theory of interacting bosons without anomalous propagators - Stolz . . . **86A** (1977) 111
Bose gas (see *Second virial coefficient*)
Boson field
– A class of exactly soluble many-body hamiltonians with the interaction of substance and— - Bogolubov, Jr. and Plechko **82A** (1975) 163
Boson gas (see *Charged bosons*)
Boson pairing (see *Interacting bosons*)
Bosons (see *Interacting bosons*)
Boson systems (see *Two-body interactions*)
Boundary conditions (see also *Transfer-matrix method*)
– On the theory of— - Waldmann and Vestner **80A** (1975) 523
– —and non-equilibrium thermodynamics - Bedeaux *et al.* **82A** (1975) 438
Bourret equation
– Acceleration of test particles in one-dimensional random force fields - Grappin **88A** (1977) 435
Brownian motion (see also *Chemical transition rates, Hard-sphere brownian motion, Hydrodynamics*)
– Microscopic theory of—: Mori friction kernel and Langevin-equation derivation - Hynes *et al.* **80A** (1975) 105
– —and hydrodynamic fluctuations near the convective instability point (*Letter to the Editor*) - Lekkerkerker **80A** (1975) 415
– Long-time tails and— - Michaels and Oppenheim **81A** (1975) 221
– Microscopic theory of—. II. Nonlinear langevin equations - Hynes *et al.* . . **81A** (1975) 485
– Microscopic theory of—. III. The nonlinear Fokker–Planck equation - Hynes *et al.* **81A** (1975) 509
– Mouvement brownien dans une assemblée de bâtonnets minces dans la phase isotrope - Bailly **82A** (1975) 247
– Mouvement brownien dans une assemblée de bâtonnets minces dans la phase nématique - Bailly **85A** (1976) 528
– On the derivation of the Fokker–Planck equation from generalized kinetic equations - Brey **90A** (1978) 574
Brownian motion of an oscillator (see *Quantum oscillator*)
Brownian particle (see *Diffusion coefficient and Fluctuating hydrodynamics*)
Brownian particle in a periodic field
– Diffusion coefficient for a—of force I. Large friction limit-Festa and Galleani d'Agliano **90A** (1978) 229
Bulk viscosity (see also *Liquid Sodium, Plasma-dynamical modes*)
– Analysis of the transport coefficients for simple dense fluids: The diffusion and—coefficients - Hanley and Cohen **83A** (1976) 215
Burnett coefficients
– Renormalization of the diffusion coefficient in a fluctuating fluid. III. Diffusion of a brownian particle with finite size - Bedeaux and Mazur **80A** (1975) 189
Burnett equations
– The relativistic Burnett equations sound propagation - Anderson and Payne, Jr. **85A** (1976) 261

Callan–Symanzik equations

–Crossover exponent to order $\varepsilon^3(\varepsilon = 4 - d)$ in isotropic N-component spin systems - Yamazaki **90A** (1978) 58
Canonically conjugate variables (see *Quantum electrodynamics*)
Canonical representations (see *Representations*)
Capillarity (see also *Boundary conditions, Verschaffelt's work*)
– Measurements and calculations of the particle flux of a binary gas mixture through a capillary generated by a concentration gradient - Kruger . . . **83A** (1976) 203
Carbon dioxide (see *Gas of nonspherical molecules, Viscosity of gases*)
Carbon disulfide (see *Gas of nonspherical molecules*)
Carbon monoxide (see *Gas of nonspherical molecules*)
Carbon tetrafluoride (see *Dense gas mixtures*)
Catalytic conversion (see *Two-body interactions*)
– *cyclic XY model*
– Note on the difference between the a-cyclic and c-cyclic version of the *XY* model - Capel and Siskens **81A** (1975) 214
Catalytic reactions
– Time evolution in a two-component system with— Kreuzer and Kurihara . **87A** (1977) 94
Catastrophe theory
– Phase transitions with several order parameters - Schulman **89A** (1977) 597
Cayley tree (see also *Quasi-one-dimensional systems*)
– The Ising system with an interaction of finite range on the— Morita . . . **83A** (1976) 411
CD_4
– Vibrational relaxation in—and CD_4–rare gas mixtures - De Vasconcelos . . **88A** (1977) 395
CD_4–rare gas mixtures
– Vibrational relaxation in CD_4 and— De Vasconcelos **88A** (1977) 395
CF_4 gas
– Line shape of the collision-induced scattering in— Gharbi and Le Duff . . **90A** (1978) 619
C_2H_4 (see *Gas of nonspherical molecules*)
C_6H_6 (see *Gas of nonspherical molecules*)
Chain diagram approximation
– Correlations in charged bosons - Samulski and Isihara **82A** (1975) 294
Chain magnetizations (see *Molecular field deterioration*)
Chain polymer molecule
– Condensation of a— Isihara and Isihara **81A** (1975) 623
Chapman–Enskog method (see *Velocity distribution function*)
Chapman–Enskog theory
– Kinetic theory of reacting systems - Eu and Li **88A** (1977) 135
Charge conjugation (see *Scalar fields*)
Charged bosons
– Correlations in— Samulski and Isihara **82A** (1975) 294
Charged fluid (see *Hydrodynamic balance equations*)
Charged particle fluids (see *Electrolyte solutions*)
Charged particle gas (see *Generalized Nyquist theorem*)
Chemical binding (see *Chemical transition rates*)
Chemical kinetics
– Formal study of a chemical reaction by Grad expansion of the Boltzmann equation. II - Moreau **79A** (1975) 39
– Stochastic theory of nonlinear rate processes with multiple stationary states - Oppenheim *et al.* **88A** (1977) 191
Chemical reaction kinetics
– Time evolution in a two-component system with catalytic reactions - Kreuzer and Kurihara **87A** (1977) 94
– Kinetic theory of reacting systems - Eu and Li **88A** (1977) 135
Chemical reactions

– Long range correlations and the onset of chemical instabilities - Lemarchand and Nicolis **82A** (1975) 521
Chemical transition rates
– The Brownian motion theory of— - Blomberg **86A** (1977) 49
Cherenkov radiation (see *Klein–Gordon equation*)
CH_3F (see *Viscomagnetic effect*)
CHF_3 (see *Viscomagnetic effect*)
Cholesteric liquid crystals
– Statistical hydrodynamics of— - Nemtsov **86A** (1977) 513
Classical Coulomb gas (see *Electrolyte solutions*)
Classical field equations (see *Gauge theories*)
Classical fields
– On the covariant equations of motion with explicit radiation damping. II. Comparison with the theory of Bhabha and Harish-Chandra - Van Weert . . **80A** (1975) 234
Classical field theory (see also *Electromagnetic fields*)
– On the covariant equations of motion with explicit radiation damping. III. The Lorentz–Dirac equation and its generalization to a magnetic dipole particle - Van Weert **80A** (1975) 247
Classical lattice systems
– Group structure analysis for—with constraints. I. General properties - Gruber and Hintermann **83A** (1976) 233
Classical spin systems (see *Linear chain, Quasi-one-dimensional systems*)
Classical statistical mechanics (see *Random-walk theory*)
Clausius–Mossotti equation (see *Dielectric constant, Electric polarisation*)
Clausius–Mossotti formula (see *Non-polar fluid*)
Cluster diagrams (see *Polymer chain*)
Cluster expansion(s) (see also *Virial coefficient*)
– Linked—in the equations of motion method II. Kinetic equations for the single-particle density matrix - Der and Haberlandt **86A** (1977) 25
Clusters (see *Critical fluctuations*)
Cluster theory
– On the classes of integral equations nonderivable by graph theory means: An improved molecular theory for classical liquids in equilibrium - Demendy . **86A** (1977) 587
CO_2 (see *Viscomagnetic effect*)
Coarse-grained entropy
– On the time and cell dependence of the—. I. - Hoyningen-Huene **82A** (1975) 417
– On the time and cell dependence of the—. II - Hoyningen-Huene **83A** (1976) 584
Coarse-graining (see *Coarse-grained entropy*)
Coexistence curve (see *Renormalization theory, Verschaffelt's work*)
Coexistence region (see *Equilibrium of liquid phases*)
Coherent potential approximation
– Excitations in randomly diluted two-dimensional ferromagnets - McGurn and Tahir-Kheli **86A** (1977) 553
Coherent states
– —and Green functions of relativistic quadratic systems - Dodonov *et al* . . **82A** (1975) 113
Cold neutron scattering
– Molecular motions in liquid ethane studied by— - Olsson and Larsson . . . **80A** (1975) 203
Collective excitations in liquids (see *Statistical theory of liquids*)
Collisional invariants (see *Plasma-dynamical modes*)
Collision effects (see *Three-particle collision effects*)
Collision-induced scattering
–Line shape of the—in CF_4 - Gharbi and Le Duff **90A** (1978) 619
Collision integral (see *Kinetic theory, Quantum kinetic equation*)
Collision operator (see also *Dissipativity, Fokker–Planck equation*)

– Some formal aspects of subdynamics - Grecos *et al.* **80A** (1975) 421
– On the—for quantum systems with discrete spectrum - Courbage **82A** (1975) 312
Collision theory (see *Laurent hamiltonian system, Particle transport theory, Three-particle kinetic operator*)
Composite particles
– Statistical mechanics of composite particles. I. General formulation— Fleckinger *et al.* **85A** (1976) 485
Compressibility (see *Molecular dynamics, Renormalization theory*)
Compressibility isotherms (see *Isotherms of ethylene*)
Compton radiation (see *Klein–Gordon equation*)
Concentration correlation functions (see *Interacting Brownian particles*)
Concentration susceptibility (see *Takagi model*)
Condensation phenomena (see *Chain polymer molecule, Charged bosons*)
Conducting wire (see *Ballast resistor*)
Conductivity (see *Dynamic conductivity*)
Conductivity phenomena (see *Phonon gas*)
Confined electron gas
– Diamagnetism of a— Felderhof and Raval **82A** (1975) 151
Conservation laws (see *Boundary conditions, Quantum kinetic equation, Relativistic kinetic theory*)
Constant-coupling approximation (see also *Metamagnetic Ising model*)
– —for antiferromagnets with mixed ferro-and antiferromagnetic interactions - Fechner and Pikula **79A** (1975) 433
Constants of the motion (*see Collision operator*)
Constraints in first order phase transitions
– Constraints, phase transitions and critical indices - Shalitin **86A** (1977) 457
Continuum approximation (see *Non-homogeneous Ising systems*)
Convective instability point (see *Brownian motion*)
Convolution-hypernetted-chain approximation (see *Linear molecules*)
Coordination number
– —in liquid argon - Brostow and Sicotte **80A** (1975) 513
Copper nitrate
–Spin ordering in spin-pair systems: The *XY* model in an external field - Rogiers and Tachiki **87A** (1977) 614
Correlation functions
– On the Schwarz–Ehrenreich closure relations for—in simple fluids - Popielawski **81A** (1975) 145
Correlation functions of linear chain
– On the linear chain with arbitrary masses and force constants. I. Correlation functions - Vigfusson **85A** (1976) 211
Correlation-patterns representation
– Linearized master equations in the— De la Rubia and Brey **80A** (1975) 260
Correlations (see *Charged bosons*)
Correlations in fluids
– Derivation of the classical theory of—by means of functional differentiation - Gates **81A** (1975) 47
Correspondence principle (see *Vortices*)
Corresponding states
– Law of—and thermal-diffusion factor of Ne–Kr and Ar–Kr mixtures - Santamaría *et al.* **83A** (1976) 615
– Law of—and thermal-diffusion factor for He–Ar mixtures from two-bulb measurements - Santamaría *et al.* **84A** (1976) 212
Corresponding-states principle (see *Self-diffusion*)
Couette flow (see *Flow birefringence*)

Coulomb gas (see *Gas of point particles, Markovian kinetic equation, Stratonovich's method*)
Coulomb gauge
- A covariant hamiltonian formulation of electrodynamics in— Poulain . . **83A** (1976) 193
Coupled lasers
- On the current of population inversion between two— Dembinski **80A** (1975) 575
Coupling constants (see *Heisenberg chain*)
Covariant equations of motion
- On the—with explicit radiation damping. II. Comparison with the theory of Bhabha and Harish-Chandra - Van Weert **80A** (1975) 234
- On the—with explicit radiation damping. III. The Lorentz–Dirac equation and its generalization to a magnetic dipole particle - Van Weert **80A** (1975) 247
Critical behaviour (see also *Anisotropic cubicasystems, Antiferromagnetic chain, Magnetic phase transition, Random-spin systems*)
- Local—at impurities in Ising-type systems - Holz *et al.* **87A** (1977) 145
Critical behaviour of fluids (see *Verschaffelt's work*)
Critical binary fluid mixtures
- On the theory of multiple scattering. III. Light scattering from critical binary mixtures - Boots **87A** (1977) 185
Critical dynamics
- Hydrodynamics of an n-component phonon system - Sasvári *et al.* **81A** (1975) 108
- Dynamic critical properties of a stochastic n-vector model - Sasvári and Szépfalusy **87A** (1977) 1
- Fokker–Planck description of classical systems with application to— Enz . **89A** (1977) 1
Critical exponents (see also *Equilibrium of liquid phases, Linear chain, Renormalization, Scaling theory, Spherical model, XY model*)
- Monte-Carlo calculation for the classical f.c.c. Heisenberg ferromagnet - Paauw *et al.* **79A** (1975) 1
- —at the turn of the century - Levelt Sengers **82A** (1975) 319
- Effect of the density-gradient term in the free energy expression on— Rice and Chang **83A** (1976) 609
Critical fluctuations
- Kinetics of clusters in a binary linear system - Hilhorst **79A** (1975) 171
Critical indices (see *Constraints in first order phase transitions*)
Critical isotherm (see *Renormalization theory*)
Critical phenomena (see also *Ballast resistor, Dicke model, Green's functions diagrammatic technique, Hydrodynamic modes in ferromagnets, Scaling theory, Two-dimensional Ising system, Two-point correlations, Vapour–liquid equilibrium*)
- A simple way of understanding some exact results on—in non-homogeneous and finite Ising systems (Ferrell's continuum approximation). I. - Decker and Hahn **83A** (1976) 143
- —for a triangular spin lattice I. Triplet interactions - Den Nijs *et al.* . . . **84A** (1976) 539
- A simple way of understanding some exact results on—in non-homogeneous and finite Ising systems. II. Cooperativity in periodically layered systems - Decker and Hahn **89A** (1977) 37
- Phase transitions with several order parameters - Schulman **89A** (1977) 597
- Phase diagram and critical points for a metamagnetic Ising model using constant coupling approximation–Meijer and Stamm **90A** (1978) 77
- The Landau–Ginzburg–Wilson model in 2 and $2+\varepsilon$ dimensions at low temperatures - Myerson **90A** (1978) 431
Critical point (see *Dipole–dipole interactions, Renormalization group transformation*)
Critical point of argon (see *Three-phase equation of state*)
Critical-point exponents

– Inequalities among static and dynamic— Alexanian and Martinez-Garcilazo **89A** (1977) 583
Critical Rayleigh number (see *Two-component Bénard problem*)
Critical scattering
– On the theory of multiple scattering II.— Boots *et al.* **84A** (1976) 217
Critical temperature (see also *XY model*)
– Monte-Carlo calculation for the classical f.c.c. Heisenberg ferromagnet - Paauw *et al.* **79A** (1975) 1
Cross-over phenomena (see *Triangular spin lattice*)
Crystalline solids (see *BCS superconductor*)
Crystalline state (see *Atomic cluster probabilities, Knight shift, Thermal resistivity*)
Current algebra
– Vortices in He II, current algebras and quantum knots - Rasetti and Regge . **80A** (1975) 217
Current density (see Relativistic spin-$\frac{1}{2}$ system, *Superfluid* ^{3}*He*)
Current–Voltage characteristic (see *Ballast resistor*)
Cyclic collisions
– An exact treatment of some integrals appearing in the three-body contributions to transport coefficients - Ronis and Oppenheim **84A** (1976) 620

Damping (see *Dispersion relations*)
Damping coefficient (see *Plasma-dynamical normal modes*)
Damping of the spin precession
– On the spin relaxation in deformable ferromagnets - Maugin **81A** (1975) 454
Data cluster analysis
– —: abrupt transition - Falk and Falk **90A** (1978) 325
DCI (see *Viscomagnetic effect*)
Debye–Bueche equations (see *Dilute polymer solutions and Frictional properties*)
Debye diffusion law (see Rotational diffusion coefficient)
Debye–Hückel theory (see Electrolyte solutions)
Deformable ferromagnets
– On the spin relaxation in— - Maugin **81A** (1975) 454
Dense fluid(s) (see also *Linear molecules*)
– On the many-body Van der Waals binding energy of a— Nijboer **79A** (1975) 420
– The structure factor and the transport properties of—having molecules with square well potential, a possible generalization - Sharma and Sharma . . . **89A** (1977) 213
Dense gases (see *Gaseous oxygen*)
Dense gas mixtures
– Dense-gas diffusion coefficients in the methane–carbon tetrafluoride system by pulsed nuclear magnetic resonance - Khoury and Kobayashi **80A** (1975) 1
– Composition dependence of the viscosity of— Di Pippo *et al.* **86A** (1977) 205
Dense molecular gases (see *Isotherms of ethylene*)
Dense rare gases
– Comparison entre la viscosité des gaz rares denses et la viscosité de modèles statistiques - Vermesse et Vidal **86A** (1977) 429
Density fluctuations
– On the theory of multiple scattering. I - Boots *et al.* **79A** (1975) 397
Density function (see *Correlations in fluids*)
Density operator (see *S-operator formalism*)
Depolarized light (see *Scattering of light from a fluid*)
Depolarized light scattering
– Hydrodynamic equations and VH light scattering from binary mixtures of fluids of nonspherical molecules - Aizenbud and Gershon **89A** (1977) 461
Diagrammatic expansion (see *Biquadratic exchange interaction*)
Diagrammatic methods (see Green's functions diagrammatic technique)
Diagrammatic techniques (see *Polymer chain*)
Diagram technique

– The averaging principle and the— Deshpande **80A** (1975) 287
Diamagnetic susceptibility (see *NMR spectroscopy, Proton magnetic shielding constant*)
Diamagnetism (see also *Electron gas*)
– —of a confined electron gas - Felderhof and Raval **82A** (1975) 151
Diatomic molecular (see *Dirac–Heisenberg exchange hamiltonian*)
Diatomic molecules (see also *Intercollisional interference effects*)
– A modified hard-sphere theory for transport properties of fluids— Dymond **85A** (1976) 175
Dichotomic Markov process
– Acceleration of test particles in one-dimensional random force fields - Grappin **88A** (1977) 435
Dicke model (see also *Many-body hamiltonians*)
– Lack of phase transition in the Dicke model with external fields - Provost *et al.* **85A** (1976) 202
– A compressible—(exact solution) - Klemm and Zagrebnov **86A** (1977) 400
– Two nonlinear— Gilmore **86A** (1977) 137
Dicke superradiance model
– Nonlinear—s: nonexistence of a phase transition - Gambardella **80A** (1975) 550
Dielectric constant (see also *Electric polarization, Polar multicomponent mixture, Polar liquids*)
– Some remarks on the theory of the—of non-polar dense gases - Nijboer . . **80A** (1975) 398
– On the—for a non-polar fluid, a comparison - Hϕye and Bedeaux **87A** (1977) 288
Dielectric liquids
– A theory of electric polarization in liquids. IV. Discussion of the approximations - Omini **88A** (1977) 478
Dielectric phenomena
– On dielectric and magnetic relaxation phenomena and vectorial internal degrees of freedom in thermodynamics - Kluitenberg **87A** (1977) 302
Dielectric properties (see also *Alignment of non-polar molecules, Light scattering, Transverse Ising model*)
– On the—of molecular crystals. II. First-order spatial dispersion and optical activity - Hafkenscheid and Vlieger **79A** (1975) 517
Dielectric relaxation (see *Electric polarization*)
Dielectrics (see *Molecular alignment*)
Dielectric susceptibility (see also *Dielectric properties*)
– Some properties of an electron gas in a quantizing magnetic field - Das . . **85A** (1976) 575
Dielectric susceptibility tensor
– On the dielectric properties of molecular crystals. III. Composite lattices - Hafkenscheid and Vlieger **85A** (1976) 129
Dielectric tensor (see *Kerr effect*)
Dielectric virial coefficient
– On the second—of nonspherical polar fluids - Singh **89A** (1977) 219
Diffusion (see also *Binary gas mixture, Binary mixture of hard spheres, Brownian motion, Chemical reactions, Fokker-Planck equation, Generalized Rosenbluth potentials, Interacting Brownian particles, Liquid sodium, Lorentz gas, Nonlinear processes, Rotational diffusion coefficient, Thermal diffusion factors, Transport coefficients, Wiener diffusion phase*)
– Structure and—in mixtures of rare gas liquids - Jacucci and McDonald . . **80A** (1975) 607
– Influence of a magnetic field on—and thermal—in gaseous mixtures - Eggermont *et al.* **82A** (1975) 23
– —of Kr in Kr–Ch_4 mixture - De Santis and Ricci **87A** (1977) 404
Diffusion coefficient(s) (See also *Binary gaseous systems, Electron–neutrino collisions, Lorentz gas*)
– Renormalization of the—in a fluctuating fluid III. Diffusion of a brownian particle with finite size - Bedeaux and Mazur **80A** (1975) 189
– A study of the two-bulb method for measuring diffusion coefficients— Yabsley and Dunlop **85A** (1976) 160

Diffusion function (see *Fokker–Planck equation*)
Diffusion in liquids
– Kinetic theory of—: A hydrodynamic approximation - Kuščer and Corngold **82A** (1975) 195
Diffusion in solids (see *Brownian particle in a periodic field*)
Diffusion of clusters
– On the diffusion of clusters of hard rods - Courtenay Lewis and Tjon . . . **85A** (1976) 114
Diffusion of polymers
—near a fluid–fluid interface or a wall - Jones **83A** (1976) 72
Diffusion of reacting particles (see *Bimolecular quasi-resonant processes*)
Diffusion theory
– On the diffusion operator of the multivariate master equation - Van Den Broeck *et al.* **89A** (1977) 339
Dilute Bose gas (see *Interacting bosons*)
Dilute gases
– The interpretation of transport coefficients on the basis of the Van der Waals model. II. Extension to— Dymond **79A** (1975) 65
Dilute polymer solutions
– Frictional properties of—. III. Translational-friction coefficient - Felderhof . **80A** (1975) 63
– Frictional properties of—. IV. Intrinsic viscosity - Felderhof **80A** (1975) 172
Dimers
– Square lattice calculations for the general dimer and trimer problems using the Kikuchi method - Kaye and Burley **87A** (1977) 499
Dipolar crystals (see *Ferromagnetic dipolar spinwaves*)
Dipolar interaction (see *Molecular alignment*)
Dipole–dipole interactions
– On some additional effects in Heisenberg ferromagnet caused by the presence of— Knežević *et al.* **90A** (1978) 333
Dirac equation (see also *Relativistic quadratic quantum systems*)
– Relativistic charged particles in the field of an electromagnetic plane wave in a medium - Becker **87A** (1977) 601
Dirac–Heisenberg exchange hamiltonian
– Diagonalization of the spin part of the exchange hamiltonian in the second-quartization method for composite particles - Marić and Popović-Božić . . **87A** (1977) 473
Disordered crystals
– Quantum transport equations for vibrating isotopically— Van Keer and Phariseau **90A** (1978) 245
Disordered structures (see *Polymer configurations*)
Disordered systems (see *Particle in a box*)
Dispersion equations (see *Fluctuation spectra, Light propagation*)
Dispersion of sound (see *Sound propagation*)
Dispersion relations
– Light scattering from a system with vibrational degrees of freedom: approximate calculation of dispersion relations - Weinberg (*Letter to the Editor*) **79A** (1975) 256
Displacive phase transition (see *Structural modulation*)
Dissipative processes (see *Fokker–Planck equation and Nonlinear irreversible processes*)
Dissipativity
—and the spectral property of the collision operator - Guo and Guo . . . **79A** (1975) 120
Dissociated gas (see *Homonuclear diatomic molecules*)
Distribution functions (see *Boltzmann equation and Gas of hard rods*)
Double scattering (see *Light scattering*)
Doubly scattered laser light
– fluctuations in— Van Rijswijk and Smith **83A** (1976) 121
Drag force (see *motion of a sphere*)

Drude–Lorentz model (see *Van der Waals binding energy*)
Dry air (see *Viscosity of gases*)
Duality transformation (see *Classical lattice systems*)
Dusty-gas model (see *Diffusion coefficients*)
Dyadic Hilbert space (see *S-operator formalism*)
Dynamic conductivity
- Green function theory of— Wagh **81A** (1975) 369
Dynamic critical phenomena
- Critical dynamics of a stochastic n-vector model below T_c–Sasvári and Szépfalusy **90A** (1978) 626
Dynamic scaling (see *Spherical model*)
Dynamic-scaling hypothesis (see *Critical dynamics*)
Dynamic viscosity
- —of macromolecular liquids for a superposition of static and oscillating velocity gradients - Hess **87A** (1977) 273
Dzyaloshinsky interactions
- On a soluble model of an antiferromagnetic chain with—. I - Siskens *et al.* . **79A** (1975) 259
- On a soluble model of an antiferromagnetic chain with—. II - Siskens *et al.* **79A** (1975) 296

$e\bar{e}\nu\bar{\nu}$-mixture
- Relativistic kinetic theory of quantum systems. V. Transport equations for the massive components of an $e\bar{e}\nu_e\bar{\nu}_e$-mixture - Siskens and Van Weert . . . **87A** (1977) 369
Eigenfunctions of the Liouville operator
- Quantum mechanics in phase space II.— Krüger and Poffyn **87A** (1977) 132
Elastic relaxation (see *Plastic flow theory*)
Elastic strains (see *Plastic flow theory*)
Electrical conduction (see *Relativistic Boltzmann theory*)
Electrical conductivity (see also *Ballast resistor, Disordered crystals, Hubbard model, One-dimensional Hubbard model, Tunneling junction*)
- Fokker–Planck equation for a periodic potential - Das and Schwendimann . **89A** (1977) 605
- A perturbation solution to generalized linear Boltzmann equation - Wagh . **90A** (1978) 137
Electrical resistivity (see *Balast resistor and Interacting charged particles*)
Electrical susceptibility (see *Transverse Ising model*)
Electric dipole lattice
- Alignment of polarizable dipoles on a lattice - Biemond *et al.* **79A** (1975) 52
Electric polarizability
- Dielectric alignment of a non-polar molecule substituting a polar molecule in a lattice of molecular dipoles - Biemond **88A** (1977) 385
Electric polarization
- A theory of—in liquids. I. Nonpolar liquids - Omini **83A** (1976) 431
- A theory of—in liquids. II. Polar liquids - Omini **84A** (1976) 129
- A theory of—in liquids. III. Dielectric relaxation - Omini **84A** (1976) 492
- A theory of—in liquids. IV. Discussion of the approximations - Omini . . **88A** (1977) 478
Electric susceptibility (see *Anharmonic oscillator*)
Electrodynamics (see *Quantum electrodynamics*)
Electrolytes
- On the theory of Wien dissociation for weak— Mason and McIlroy . . . **82A** (1975) 463
Electrolyte solutions
- Extended mean spherical approximation for— Martina and Del Río . . . **86A** (1977) 185
Electromagnetic fields (see also *Dicke model, Hydrodynamic balance equations*)
- —with symmetry - Combe and Sorba **80A** (1975) 271
Electromagnetic multipole operators
- A phase-consistent derivation of the— Waroquier *et al.* **80A** (1975) 465
Electromagnetic radiation (see *Superradiance and Undamped spiking in lasers*)

Electromagnetic theory (see Coulomb gauge)
Electromagnetic waves (see *Potential waves*)
Electromagnetism (see *Light scattering by surfaces*)
Electron diffraction theory (see *Low-energy electron diffraction theory*)
Electron gas (see also *Confined electron gas, Nonlinear electronic system*)
- Long-wavelength fluctuation spectra of charged *versus* neutral one-component systems - Baus **79A** (1975) 377
- Alternant molecular-orbital excitations by the generator-coordinate method in the— Laskowski *et al.* **80A** (1975) 561
- Some properties of an electron gas in a quantizing magnetic field - Das . . **85A** (1976) 575
- A note on the momentum distribution function for an electron gas - Yasuhara and Kawazoe **85A** (1976) 416
- Theory of the self-diffusion (spin diffusion) coefficient of an— Fujita . . . **89A** (1977) 127
Electronic band energy spectrum of disordered solids (see *Linear disordered systems*)
Electronic conduction in metals (see *Interacting charged particles*)
Electronic cyclotron orbit dynamics (see *Diamagnetism*)
Electronic density of states in metals (see *BCS superconductor*)
Electronic structure of atoms (see *Atomic clusters*)
Electron–impurity interaction
- A perturbation solution to generalized linear Boltzmann equation - Wagh . **90A** (1978) 137
Electron–neutral particle collisions (see *Weakly ionized gases*)
Electron–neutrino gas (see *Neutrino gas*)
Electron–neutrino collisions
- On relativistic kinetic gas theory. XIX. The electron–neutrino system - De Groot *et al.* **84A** (1976) 613
Electron–neutrino spin-flip (see *Weinberg–Salam model*)
Electron–phonon interaction(s) (see also *Hubbard model, Metal–insulator phase transition, Superconductors with structural distortion*)
- Quantum transport equations for vibrating isotopically disordered crystals - Van Keer and Phariseau **90A** (1978) 245
Electron transport (see *Weakly ionized gases*)
Electron transport theory in static electric and magnetic fields
- On series expansions in a nonlinear electronic system - Lewiner and Calecki **86A** (1977) 601
Electrostatic lattice potentials
- Note on the calculation— Fortuin **86A** (1977) 574
Electro-thermal instability (see Ballast resistor)
Encaging effect (see *Liquid ethane*)
End-to-end distribution function
- —of a polymer chain with a pairwise additive self-interaction - Mooy and Hijmans **82A** (1975) 543
Energy-momentum density (see *Relativistic spin-$\frac{1}{2}$ system*)
Energy renormalization (see *External magnetic fields*)
Enskog equation
- Microscopic interpretation of the Enskog equation for a homogeneous gas - Cichocki and Piasecki **85A** (1976) 101
Enskog kinetic equation (see *H theorem*)
Enskog theory
- The corrected—and the transport properties of molecular liquids - Van Loef **87A** (1977) 258
Entropy law
- The laws of relativistic thermodynamics. III. The— De Groot **88A** (1977) 425
Entropy production (see also *Gas-phase chemical reaction, Relativistic Boltzmann theory*)
- Minimum—and logarithmic rate equations - Wangsness **79A** (1975) 543

Equation of state (see also *Gas of point particles, Lattice gases, Random-spin systems, T Square-well potential, Verschaffelt's work, T Renormalization Theory, Virial coefficients, Virial equation of state*)
- —of a classical anharmonic oscillator - Wehner and Baeriswyl **81A** (1975) 129
- Virial coefficients of the —of a gas of nonspherical molecules. I. Nonpolar molecules - Singh and Singh **83A** (1976) 339

Equations of motion (see also *Covariant equations of motion, Single-particle density matrix, Two-phase systems*)
- Linked-cluster expansions in the—method for nonequilibrium processes - Der and Haberlandt **79A** (1975) 597

Equilibrium distribution functions
- Structure and diffusion in mixtures of rare-gas liquids - Jacucci and McDonald **80A** (1975) 607

Equilibrium magnetization-recovery curve
- Intermolecular spin–spin interactions in liquids - Sakun **80A** (1975) 128

Equilibrium of liquid phases
- Equilibrium of three liquid phases and approach to the tricritical point in benzene–ethanol–water–ammonium sulfate mixtures - Lang and Widon . . **81A** (1975) 190

Equilibrium properties (see *Heisenberg ferromagnet*)

Equivalence transformations (see *Sixteen-vertex model*)

Ergodic behaviour (see *Antiferromagnetic chain*)

Ergodicity (see *Fermi lattice system*)

Ergodicity of magnetization
- Time correlation functions and ergodic properties in the alternating XY-chain - Perk *et al* **89A** (1977) 304

Ergodic properties of linear chain
- On the linear chain with arbitrary masses and force constants. II. Ergodic properties - Vigfusson **85A** (1976) 237

Errata
- On the propagation of sound in chemically reacting fluids - García-Colín and De la Selva ([Physica 75 (1974) 37] **80A** (1975) 321
- Density fluctuations and specific heat near the critical point - Rice and Chang [Physica 74 (1974) 266; 78 (1974) 490] **81A** (1975) 161
- A phase-consistent derivation of the electromagnetic multipole operators - Waroquier *et al.* [Physica 80A (1975) 465] **81A** (1975) 633
- On the Schwartz–Ehrenreich closure relations for correlation functions in simple fluids - Popielawski [Physica 81A (1975) 145] **83A** (1976) 213
- On the collision operator for quantum systems with discrete spectrum - Courbage [Physica 82A (1975) 312] **84A** (1976) 216
- Note on Boltzmann–Langevin equation and hydrodynamic fluctuations - Ueyama [Physica 80A (1975) 98] **86A** (1977) 629
- Force density induced on a sphere in linear hydrodynamics. II. Moving sphere, mixed boundary conditions - Felderhof [Physica 84A (1976) 569] **88A** (1977) 614
- On the thermodynamics of the random one-dimensional Ising chain in a transverse field - Braeter and Kowalski [Physica 87A (1977) 243] **89A** (1977) 223

Ethane (see *Liquid ethane, Virial equation of state*)

Ethanol (see *Polar liquids*)

Ethylene (see *Isotherms of ethylene, Proton magnetic shielding constant*)

Evolution operator (see *Correlation-patterns representation*)

Exchange anisotropy (see *Heisenberg paramagnets*)

Exchange constants (see *Constant-coupling approximation*)

Exchange interaction (see *Impurities in Ising-type systems*)

Exchange interaction tensor (see *Biquadratic exchange systems*)

Excitation in Bose fluids
- Structure factor for a Bose fluid - Khanna and Sinha **89A** (1977) 613

Excitations (see *Molecular-orbital excitations*)
Excitation spectra
- A note on the multi-branch structure of the excitation spectra in liquid helium II - Sridhar **80A** (1975) 405
Exciton (see *Kinematical exciton levels*)
Exciton condensation (see *Interacting bosons*)
Exciton pairing (see *Interacting bosons*)
Exponential pair potentials (see *One-dimensional Ising model*)
Extended law of corresponding states (see *Thermal diffusion factors*)
External-magnetic fields
- Nonlinear response to— Reichl **79A** (1975) 312

Fadeev equations (see also *Three-magnon bound states*)
- The—for the Heisenberg ferromagnetic - Van Himbergen **86A** (1977) 93
Faxén's theorem (see also *Surface force density*)
- On the motion of a sphere with arbitrary slip in a viscous incompressible fluid - Albano *et al.* **80A** (1975) 89
- A generalized Langevin equation for the angular velocity of a spherical brownian particle from fluctuating hydrodynamics - Hills **80A** (1975) 360
Fermi lattice system
- A note on Fermi lattice systems with bilinear hamiltonians (the *XY* model once more) - Van Hemmen and Vertogen **81A** (1975) 391
Fermion system (see *Generalized master equation*)
Fermion systems and electron gas (see *Superconductors with structural distortion*)
Ferroelectricity
- Dipolar interaction in the transverse Ising model of H-bonded ferroelectrics - Dumont and Dagonnier **80A** (1975) 490
Ferroelectric phase (see *Structural modulation*)
Ferroelectrics (see also *Transverse Ising model*)
- A class of exactly soluble many-body hamiltonians with the interaction of substance and boson field - Bogolubov, Jr. and Plechko **82A** (1975) 163
Ferromagnetic dipolar spinwaves
- —Heringa and Marrenga **83A** (1976) 371
Ferromagnetic exchange
-Glass-like phase on the close packed lattices - Katsura **88A** (1977) 583
Ferromagnetic interactions (see also *Separable interactions, Separable many-particle interactions*)
- Constant coupling approximation for antiferromagnets with mixed ferro- and antiferromagnetic interactions - Fechner and Pikula **79A** (1975) 433
Ferromagnetic relaxation (see *Deformable ferromagnets*)
Ferromagnetism (see *Ferromagnetic dipolar spinwaves, Lattice theory, Linear chain*)
Ferromagnet(s) (see also *Biquadratic exchange interaction, Deformable ferromagnets, Heisenberg ferromagnet, Ising ferromagnet, Spin I-Heisenberg ferromagnet, Two-dimensional ferromagnets, Two-point correlations, XY model*)
- On a model of field deterioration - Thompson **79A** (1975) 113
Feynman–Onsager relation (see *Vortices*)
Field theory (see also *Equations of motion, Gauge theories, Vortices*)
- A phase-consistent derivation of the electromagnetic multipole operators - Waroquier *et al.* **80A** (1975) 465
Finite scaling theory (see *Heisenberg ferromagnet*)
First-order equations
- Hidden hamiltonians of— Broer **79A** (1975) 583
Fixed ion plasma model

- Statistical mechanics of composite particles. I. General formulation— Fleckinger *et al* **85A** (1976) 485
Flow alignment
- Non-Newtonian viscosity and normal pressure associated with the—in macromolecular liquids – Hess **86A** (1977) 383
Flow birefringence
- —in gases of linear and symmetric top molecules - Baas *et al.* **88A** (1977) 1
- —in gases of linear and symmetric molecules - Baas *et al.* **88A** (1977) 1
- —in gaseous mixtures - Baas *et al.* **88A** (1977) 34
Fluctuating dielectric (see *Light scattering*)
Fluctuating fluid (see also *Rotational diffusion coefficient*)
- Renormalization of the diffusion coefficient in a—III. Diffusion of a brownian particle with finite size - Bedeaux and Mazur **80A** (1975) 189
Fluctuating hydrodynamics
- A generalized Langevin equation for the angular velocity of a spherical brownian particle from— Hills **80A** (1975) 360
Fluctuation – dissipation theorem
- A stochastic approach to the kinetic theory of gases - Malek-Mansour *et al.* **88A** (1977) 407
- Fokker–Planck description of classical systems with application to critical dynamics - Enz **89A** (1977) 1
Fluctuation–dissipation theorem (see *Fluctuating hydrodynamics*)
Fluctuation – dissipation theorem for slip coefficient
- Brownian motion and fluctuating hydrodynamics II; A— Bedeaux *et al.* . . . **88A** (1977) 574
Fluctuation in superradiance (see *Superradiance*)
Fluctuation phenomena (see also *Ballast resistor, Coarse-grained entropy, Doubly scattered laser light, Multivariate stochastic processes, Stochastic n-vector model, Superradiance*)
- Theory of $1/f$ fluctuation of particle concentration in thermal equilibrium - Musha **80A** (1975) 387
- Brownian motion and hydrodynamic fluctuations near the convective instability point (*Letter to the Editor*) - Lekkerkerker **80A** (1975) 415
- Eine Verallgemeinerung des Stratonovichverfahrens für Anwendungen in der statischen Mechanik - Gerlich **82A** (1975) 477
Fluctuation phenomena in chemical systems
- Stochastic analysis of a nonequilibrium phase transition: some exact results - Nicolis and Turner **89A** (1977) 326
Fluctuation problem (see *Particle transport theory*)
Fluctuations (see also *Critical fluctuations, Particle transport theory, Single-mode laser, Takagi model, Wave propagation, XY model*)
- Time-local gaussian processes, path integrals and nonequilibrium nonlinear diffusion - Dekker **85A** (1976) 363
Fluctuations in a nonlinear oscillator
- Systematic treatment of fluctuations in a nonlinear oscillator - Rodríguez and Van Kampen **85A** (1976) 347
Fluctuations in non-equilibrium systems (see *Chemical reactions*)
Fluctuation spectra
- Long-wavelength—of charged *versus* neutral one-component systems - Baus **79A** (1975) 377
Fluctuation theory (see also *Undamped spiking in lasers*)
Fluctuations in the diffusion of particles in a non-uniform medium - Felderhof **88A** (1977) 305
Fluid dynamics
- Molecular hydrodynamics of inhomogeneous systems: the origin of slip boundary conditions - Ronis *et al.* **88A** (1977) 215
Fluid Flow
- Comments on the Debije–Brinkman equation – Wiegel and Mijnlieff . . . **85A** (1976) 207

– Particle rotation and translation in a fluid with spin - Hynes *et al.* **87A** (1977) 427
Fluid flow along boundaries
– Molecular hydrodynamics of inhomogeneous systems: the origin of slip boundary conditions - Ronis *et al.* **88A** (1977) 215
Fluid flow in restricted geometries (see *Dynamics viscosity*)
Fluid–fluid interface
– Diffusion of polymers near a—or a wall - Jones **83A** (1976) 72
Fluid glow (see *Surface force density*)
Fluid mixture (see *Polar multicomponent mixture*)
Fluid of nonspherical molecules (see *Second dielectric virial coefficient*)
Fluid phase (see *Metastable fluid states*)
Fluid(s) (see also *Binary mixtures of fluids, Boundary conditions, Brownian motion, Bulk viscosity, Critical binary fluid mixtures, Critical exponents, Critical-point exponents, Fluctuating fluid, Fluctuating hydrodynamics, Fluid dynamics, Fluid flow, Hard-sphere fluid, Hard-sphere gases, Hydrodynamic interaction, Immiscible fluids, Interacting Brownian particles, Interfacial systems, Molecular dynamics, Motion of a sphere, Multiple scattering, Nematic phase of a fluid, Non-polar fluid, Polar fluids, Polar liquids, Rayleight integrated depolarization, Renormalization theory, Schwarz–Ehrenreich closure relations, Self-diffusion constant, Surface force density, Suspension of spheres, Transport theory in two dimensions, Van der Waals equation of state, Vapour–liquid equilibrium, Verschaffelt's work, Virial equation of state*)
– Molecular dynamics studies of an *m*-6-8 fluid - Hanley and Watts **79A** (1975) 351
– Derivation of the classical theory of correlations in—by means of functional differentiation - Gates **81A** (1975) 47
– Long-time tails and brownian motion - Michaels and Oppenheim **81A** (1975) 221
– Kinetic approach to the long-time behaviour in—. III. The one-particle propagator - Theodosopulu and Résibois **82A** (1975) 47
– Perturbation theory for square-well plus Sutherland (∞, 6) fluid - Boghdadi . **85A** (1976) 193
– The principle of corresponding states and the dynamic properties of simple liquids - Rouch *et al.* **88A** (1977) 347
Fluid suspensions (see *Polymer suspensions*)
Fluorine molecules (see *Diatomic molecules*)
Fock space (see *Composite particles*)
Fokker–Planck approximation (see *Master equation*)
Fokker–Planck equation (see also *Brownian motion, Chemical transition rates, Critical dynamics, Diffusion in liquids, Fluctuations in a nonlinear oscillator, Local structure parameters, Nonlinear Fokker–Planck equation, Nonlinear irreversible processes, Rayleigh–Fokker–Planck equation, Single-mode laser, Wave propagation*)
– Eine Verallgemeinerung des Stratonovichverfahrens für Anwendungen in der statischen Mechanik - Gerlich **82A** (1975) 477
– On the Feynman proof of the exact relation between a class of path sums and the general nonlinear— Dekker **84A** (1976) 205
– A functional Stieltjes measure and generalized diffusion processes - Dekker **87A** (1977) 419
– On the derivation of the—from generalized kinetic equations - Brey . . . **90A** (1978) 574
Fokker–Planck equation for periodic potentials
– Fokker–Planck equation for a periodic potential - Das and Schwendimann . **89A** (1977) 605
Fokker—Planck friction coefficient
– Collective modes in some Fokker–Planck Coulomb systems: One-dimensional case - Das **87A** (1977) 167
Force constants (see *Correlation functions of linear chain* and *Ergodic properties of linear chain*)
Force multipole moments (see *Rheology*)

Foundation(s) of statistics (see also *Kirkwood–Salsburg operator*)
– A comment on the reliability of the Toda criterion for the existence of a stochastic transition - Benettin *et al.* **87A** (1977) 381
Free electron network
– On the electronic energy spectrum of linear models for disordered systems - Scheire **88A** (1977) 607
Free energy convex envelope (see *Separable many-particle interactions*)
Free-fermion model (see *Sixteen-vertex model*)
Free polymer chain (see *Polymer chain*)
Frenkel excitons
– The role of—in low-energy electron diffraction theory for molecular crystals - Nuyts and Phariseau **90A** (1978) 260
Frequency distribution (see *Atomic cluster probabilities*)
Frequency—wave-vector dependent response function
– Excitations in randomly diluted two-dimensional ferromagnets - McGurn and Tahir-Kheli **86A** (1977) 553
Frictional properties
– —of dilute plymer solutions. III. Translational-friction coefficient - Felderhof **80A** (1975) 63
– —of dilute polymer solutions. IV. Intrinsic viscosity - Felderhof **80A** (1975) 172
Friction coefficient (see also *Brownian motion, Nematic phase of a fluid*)
–On the motion of a sphere with arbitrary slip in a viscous incompressible fluid - Albano et al. **80A** (1975) 89
– Intrinsic viscosity and—of permeable macromolecules in solution - Wiegel and Mijnfieff **89A** (1977) 385
Friction of particle motion in gases
– Generalized hydrodynamics of thermal transpiration, thermal force and friction force - Vestner and Waldmann **86A** (1977) 303
Friction pressure tensor
– Non-Newtonian viscosity and normal pressure associated with the flow alignment in macromolecular liquids - Hess **86A** (1977) 383
Fröhlich hamiltonian
– An exactly solvable model for metal–insulator phase transition - Brankov *et al.* **79A** (1975) 125
Function coefficient (see *Rheology*)
Furry distribution
– A fluctuation problem in particle theory II - Williams **88A** (1977) 561

Galilei invariance (see *Wigner distribution function*)
Gas dynamics (see *Krypton–methane mixture*)
Gaseous mixtures
– Flow birefringence in— Baas *et al.* **88A** (1977) 34
Gaseous oxygen
– Measurements of the viscosity of compressed gaseous and liquid oxygen - Haynes **89A** (1977) 569
Gaseous reactions (see *Catalytic reactions*)
Gases (see also *Binary Collision expansion, Binary gas mixture, Binary mixtures of dilute gases, Dispersion relations, Irreversibility, Kinetic theory of gases, Linear molecules, Self-diffusion coefficient, Three-particle kinetic operator, Vapour–liquid equilibrium, Viscosity of gases*)
– Irreversibility in the hard-spheres gas: *H* theorem and the Gibbs relation - Hubert **83A** (1976) 548
– Flow birefringence in—of linear and symmetric top molecules - Baas *et al.* . **88A** (1977) 1
Gases at high pressures (see also *NMR spectroscopy*)
– High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. IV. Density dependence of the ^{13}C–H indirect spin–spin coupling constant in gaseous methane - Trappeniers and Oldenziel **83A** (1976) 173

Gas–gas equilibrium
– Vapour–liquid and gas–gas equilibria in simple systems. IV. The system argon–krypton - Schouten *et al.* **81A** (1975) 151
Gas of hard rods
– Numerical evaluation for classical one-dimensional—with an interaction of finite range - Fukui and Morita **79A** (1975) 83
Gas of hard spheres (see also *Three-particle collision effects*)
– On relativistic kinetic gas theory. XVI. The temperature of the transport co-efficients for a simple— Kox *et al.* **84A** (1976) 155
Gas of nonspherical molecules (see also *Virial coefficients*)
– Virial coefficients of the equation of state of a—. I. Nonpolar molecules - Singh and Singh **83A** (1976) 339
Gas of point particles
– The zero-distribution of the great partition function in— Van den Berg and Niemeijer **85A** (1976) 186
Gas-phase chemical reaction
– Formal study of a chemical reaction by Grad expansion of the Boltzmann equation. I-Moreau **79A** (1975) 18
Gas–solid interface
– Generalized hydrodynamics of thermal transpiration, thermal force and friction force - Vestner and Waldmann **86A** (1977) 303
Gauge invariance
– A manifestly gauge-invariant formulation of quantum electrodynamics - Balescu and Poulain **79A** (1975) 559
Gauge theories
– Solitons,—and the "great Einstein theorem" - Dresden and Chen **83A** (1976) 1
Generalized hydrodynamics
– On the theory of boundary conditions - Waldmann and Vestner **80A** (1975) 523
Generalized master equation(s) (see also *Open systems*)
– On the structure of the generalized master equation for open system - Lugiato and Milani **85A** (1976) 1
Generalized Nyquist relation
– Validity of a— Huber **87A** (1977) 199
Generalized Nyquist theorem
– Current density and field fluctuations in a conducting medium - Feldherhof . **89A** (1977) 205
Generalized Rosenbluth potentials
– —Hassan **90A** (1978) 351
General relativity (see *Gauge theories*)
Generator-coordinate method
– Alternant molecular-orbital excitations by the—in the electron gas - Laskowski *et al* **80A** (1975) 561
Gibbsian ensemble (see *Irreversibility*)
Gibbs relation (see *Entropy law*)
Ginzburg–Landau parameter
– The—in the case of non-pure superconductors - De Lillo and Mancini . . **87A** (1977) 391
Glass like phase
—on the close packed lattices - Katsura **88A** (1977) 583
Glauber distribution function (see *Single-mode laser*)
Glory undulations
– Glory undulations in the total cross section for scattering of— Bredewout *et al.* **85A** (1976) 28
Grad method of moments (see *Transport coefficients*)
Grad polynomials
– Formal study of a chemical reaction by Grad expansion of the Boltzmann equation. I - Moreau **79A** (1975) 18

– Formal study of a chemical reaction by Grad expansion of the Boltzmann equation. II - Moreau **79A** (1975) 39
Graph theory (see *Polar multicomponent mixture, Two-spin dynamic autocorrelations, Virial coefficient(s)*)
Gravitation (see *Gauge theories*)
Green-function theory
– First order—of isotropic Heisenberg ferromagnet - Kamieniarz **86A** (1977) 417
Green–Kabo integrands (see *One-particle propagator*)
Green's function(s) (see also *Equation of motion, One-dimensional Hubbard model*)
– Higher order field equations II; limit properties of— Tolhoek **86A** (1977) 278
Green's functions diagrammatic technique
– Generating functional approach to the—for spin and pseudospin lattice systems. I. General theory - Walasek **88A** (1977) 497
–Generating functional approach to the—for spin and pseudospin lattice systems. II. Diagrammatic method for generalized Pauli operators - Walasek **88A** (1977) 517
Group structure analysis (see *Lattice theory*)
Group-theoretical methods (see *Classical lattice systems*)
Group-theoretical models (see *Sixteen-vertex model*)
Group theory (see *Electromagnetic fields, Invariance operator groups, Spectrum of Liouville operators*)
Gyration tension (see *Dielectric properties*)

Hamiltonian formulation (see *Gauge invariance*)
Hamiltonians
– Hidden—of first-order equations - Broer **79A** (1975) 583
Hamiltonian walks
– —and polymer configurations - Malakis **84A** (1976) 256
Hard-core boson operators (see *Liquid helium four*)
Hard disks system
–Fifth virial coefficient for a system of hard disks - Kratky **85A** (1976) 607
Hard rod gas (see *Diffusion of clusters*)
Hard rods (see *Gas of hard rods*)
Hard-sphere brownian motion
– The approach to—: variational eigenfunctions and evaluation of the Rayleigh–Fokker–Planck equation - Hoare and Kaplinsky **81A** (1975) 349
Hard sphere collisions in cascade scattering (see *Particle transport theory*)
Hard-sphere fluid (see also *Schwarz–Ehrenreich closure relations*)
– Fifth to tenth virial coefficients of a hard-sphere fluid - Kratky **87A** (1977) 584
Hard-sphere gases (see also *Enskog equation*)
– A modified hard-sphere theory for transport properties of fluids— Dymond **85A** (1976) 175
Hard-sphere model(s) (see also *Dense fluids, Transport coefficients*)
– Some unusual elementary aspects of irreversibility - Monteiro **79A** (1975) 95
Hard-spheres fluid (see *Dense rare gases*)
Hard-spheres gas
– Irreversibility in the—: H theorem and the Gibbs relation - Hubert **83A** (1976) 548
Harmonic potential model for chemical reactions (see *Chemical transition rates*)
Harmonic oscillator (see *Eigenfunctions of the Liouville operator, Stratonovich's method*)
HCl (see *Viscomagnetic effect*)
HD (see also *Flow birefringence, Rotational excitation, Viscomagnetic effect*)
– The influence of nuclear spins on the transport properties of molecular gases and application to— Coope *et al.* **79A** (1975) 129
Heat bath (see *Hard-sphere brownian motion*)

Heat conduction (see *Transport coefficients*)
Heat conductivity (see also *Transport coefficients*)
- The effect of a magnetic field on the—of oxygen and oxygen–argon gas mixtures - Bhanja *et al.* **90A** (1978) 167
Heat flow birefringence
- —on gaseous O_2 - Baas *et al.* **88A** (1977) 44
Heisenberg chain
- On the anisotropic— Van Dongen *et al.* **79A** (1975) 617
Heisenberg exchange interaction (see *One-dimensional Heisenberg magnet*)
Heisenberg ferromagnet (see also *Hydrodynamic models in ferromagnets, Two-dimensional Heisenberg ferromagnet*)
- Monte-Carlo calculation for the classical f.c.c.— Paauw *et al.* **79A** (1975) 1
- The dynamical longitudinal correlation function of the Heisenberg model at low temperatures - Dewel **82A** (1975) 365
- First order Green-function theory of isotropic— Kamieniarz **86A** (1977) 417
- The Fadeev equations for the— Van Himbergen **86A** (1977) 93
- On some additional effects in—caused by the presence of dipole–dipole interactions - Knezević *et al.* **90A** (1978) 333
Heisenberg interaction (see *Spin dynamics*)
Heisenberg model (see also *Hubbard identity, One-dimensional classical Heisenberg model, One-dimensional Heisenberg model*)
- Planar classical—with biquadratic interactions - Chen *et al.* **87A** (1977) 629
Heisenberg paramagnet(s)
- Two-spin dynamic correlations and energy diffusion in the— De Leener and Résibois **87A** (1977) 63
- Long time behaviour of correlation functions in— Borckmans *et al.* . . . **88A** (1977) 261
Heisenberg spin glass
- Ondes de spin dans un verre magnétique classique - Seiden **90A** (1978) 507
Helium (see *Binary diffusion of monatomic gases, Flow birefringence, Noble gases, Viscosity of gases*)
Helium II
- Vortices in He II, current algebras and quantum knots - Rasetti and Regge . **80A** (1975) 217
Helium–argon mixture(s) (see *Binary gas mixtures, Dense gas mixtures, Thermal diffusion*)
Helium four (see *Liquid helium four*)
Helium–oxygen mixture (see *Binary gas mixtures*)
Higher order field equations
- Wave propagation according to—I - Meuwese *et al.* **82A** (1975) 72
- —II; limit properties of Green's functions - Tolhoek **86A** (1977) 278
Higher-order spin correlation functions
- Higher-order correlation functions of the planar Ising model - Bariev . . . **83A** (1976) 388
High order distribution functions (see *Truncation procedure*)
Hilbert-space formulation (see *Spectrum of Liouville operators*)
Holstein–Fröhlich modified Hubbard model
- Transport properties determinations of the one-dimensional, half-filled band— - Lawson **89A** (1977) 139
Homonuclear diatomic molecules
- One-dimensional model of partially dissociated gases of homonuclear—Morita and Fukui **85A** (1976) 310
Honeycomb-lattice gas (see *Lattice gas*)
Hopf equation
- The averaging principle and the diagram technique - Deshpande **80A** (1975) 287
H-theorem

– Some unusual elementary aspects of irreversibility - Monteiro **79A** (1975) 95
– Irreversibility in the hard-spheres gas:—and the Gibbs relation - Hubert . . **83A** (1976) 548
Hubbard identity
– The—and the absence of phase transitions in some spin systems - Fanchiotti *et al.* **90A** (1978) 164
Hubbard model (see also *One-dimensional Hubbard model*)
– Transport properties determinations of the one-dimensional, half-filled band Holstein–Frölich modified— Lawson **89A** (1977) 139
Hydrodynamical behaviour (see *One-particle propagator*)
Hydrodynamical instability (see *Bénard instability*)
Hydrodynamical mode (see *Fluctuation spectra*)
Hydrodynamical mode theory
– Microscope theory of the long-wavelength modes of two-component plasmas and ionic liquids. I. The transverse modes - Baus **88A** (1977) 319
Microscopic theory of the long-wavelength modes of two-component plasmas and ionic liquids. II. The longitudinal modes - Baus **88A** (1977) 336
Hydrodynamical normal modes
– On the relativistic plasma-dynamical and— Balescu and Brenig **81A** (1975) 1
Hydrodynamic balance equations
– Microscopic derivation of—in the presence of an electromagnetic field - Kreuzer and Zasada **83A** (1976) 573
Hydrodynamic dispersion relations (see *Heisenberg paramagnets*)
Hydrodynamic equations of motion (see *Multi-component systems*)
Hydrodynamic fluctuations
– Note on Boltzmann–Langevin equation and— Ueyama **80A** (1975) 98
Hydrodynamic interaction
– —between two spheres - Felderhof **89A** (1977) 373
Hydrodynamic interaction tensor (see *Diffusion of polymers*)
Hydrodynamic matrices
– Geometry of the roots of—in the dissipation-free limit (*letter to the Editor*) - *Lekkerkerker and Van Oost* **84A** (1976) 628
Hydrodynamic modes (see *Diffusion in liquids, Planar ferromagnet*)
Hydrodynamic modes in ferromagnets
– The dynamical longitudinal correlation function of the Heisenberg model at low temperatures. II. The hydrodynamic regime - Dewel **89A** (1977) 245
Hydrodynamics (see also *Brownian motion, Fluid dynamics, Friction of particle motion in gases, Nonlinear response theory, Phonons, Plasma dynamical modes, Statistical hydrodynamics*)
– On the motion of a sphere with arbitrary slip in a viscous incompressible fluid - Albano *et al.* **80A** (1975) 89
– Brownian motion and hydrodynamic fluctuations near the convective instability point (*Letter to the Editor*) - Lekkerkerker **80A** (1975) 415
– On the microscopic derivation of balance equations in— Kreuzer **80A** (1975) 585
– Comments on the Debije–Brinkman equation - Wiegel and Mijnlieff . . . **85A** (1976) 207
– Particle rotation and translation in a fluid with spin - Hynes *et al.* **87A** (1977) 427
– Brownian motion and fluctuating—II; A fluctuation-dissipation theorem for the slip coefficient - Bedeaux *et al.* **88A** (1977) 574
Hydrodynamics of mixtures of liquids
– Hydrodynamic equations and VH light scattering from binary mixtures of fluids of nonspherical molecules - Aizenbud and Gershon **89A** (1977) 461
Hydrogenic plasma (see *Composite particles*)
Hydrogen isotopes (see *Viscomagnetic effect*)
Hydrogen–methane mixture (see *Dense gas mixtures*)
Hydrogen–rare gas mixtures (see *Intercollisional interference effects*)

Hyperfine field (see *Impurities in Ising-type systems*)

Ideal gas
– Response of an—in an external potential - Kreuzer and Teshima **87A** (1977) 453
Immiscible fluids
– Hydrodynamic response and free surface modes for two— - Bedeaux and Oppenheim **90A** (1978) 39
Impurities in Ising-type systems
– Local critical behaviour at— Holz *et al.* **87A** (1977) 145
Incompressible fluids
– A generalized Langevin equation for the angular velocity of a spherical brownian particle from fluctuating hydrodynamics - Hills **80A** (1975) 360
Inelastic strains (see *Plastic flow theory*)
Infinite-momentum frame (see *Poincaré algebra*)
Infrared spectra (see *Intercollisional interference effects*)
Infrared spectroscopy (see *Vibrational relaxation*)
Inhomogeneous gases (see *Three-particle kinetic operator*)
Inhomogeneous linear chains (see *Bi-lattices*)
Inhomogeneous quantum fluids
– Bogoliubov transformation for a spatially varying gap - Wootters **90A** (1978) 317
Insulators (see *One-dimensional Hubbard model*)
Interacting bosons
– Three-level approximation for interacting boson transition-temperature calculation - Khanna and Mehrotra **81A** (1975) 311
Interacting Brownian particles
– Theory of light scattering from a system of interacting Brownian particles - Hess and Klein **85A** (1976) 509
Interacting charged particles
– Isothermal resistivity for—in contact with a bath - Röpke **86A** (1977) 147
Interacting of molecules and electromagnetic fields (see *Kerr effect*)
Interaction between electromagnetic radiation and atoms
– A renormalization approach to many-atom radiation processes - Takatsuji . **84A** (1976) 68
– Fluctuation in superradiance - Suzuki **84A** (1976) 48
– Superradiance and energy transfer with a system of atoms - Stone *et al.* . . **84A** (1976) 1
– Exact solution and scaling theory of superradiance - Arimitsu and Suzuki . **90A** (1978) 303
Interaction bosons
– Theory of—without anomalous propagators - Stolz **86A** (1977) 111
Interaction of electromagnetic radiation with atoms
– A compressible Dicke model (exact solution) - Klemm and Zagrebnov **86A** (1977) 400
Interaction of electromagnetic radiation and molecules (see *Depolarized light scattering*)
Interaction of electromagnetic radiation with molecules (see also *Critical binary fluid mixtures, Linear chain of molecules*)
– On the theory of multiple scattering II. Critical scattering - Boots *et al.* . . **84A** (1976) 217
Interaction of electrons with electromagnetic fields (see *Invariance operator groups*)
Interaction of light with electrons in solids
– Interaction of an electromagnetic wave with oscillations in solids - Suramlishvili **84A** (1976) 411
Interaction of molecules (see also *Second virial coefficient*)
– Collision-induced scattering for molecules - Gharbi and Le Duff **87A** (1977) 177
Interaction of optical radiation with atoms (see *Superradiance*)
Interaction of scalar particles with an electromagnetic field (see *Klein–Gordon equation*)

Interaction of spinor particles with an electromagnetic field (see *Klein–Gordon equation*)
Interaction representation (see *Diagram technique*)
Interatomic forces
– Dispersion forces between closed shell atoms - Lekkerkerker *et al.* **88A** (1977) 375
Interchain interaction (see *One-dimensional Ising chain*)
Intercollisional interference effects
Theory of—. V. Pressure shift of the interference minimum in the Q branch of H_2–rare gas mixtures - Lewis **82A** (1975) 500
Interface between fluids (see *Boundary conditions*)
Interface between phases (see *Two-phase system*)
Interfacial enrtopy production
– On the theory of boundary conditions - Waldmann and Vestner **80A** (1975) 523
Interfacial systems
– Non-equilibrium thermodynamics of— - Kovac **86A** (1977) 1
Intermediate coupling theory (see *Two-level tunneling system*)
Intermolecular forces (see *Diatomic molecules, Principle of corresponding states*)
Intermolecular interactions (see *NMR spectroscopy*)
Intermolecular potential
– Statistical mechanics of linear molecules. I. Percus–Yevick and convolution-hypernetted-chain approximations - Moraal **83A** (1976) 33
– Statistical mechanics of linear molecules. II. Density expansions, intermolecular potentials and virial coefficients - Moraal **83A** (1976) 57
Internal energy (see *Molecular dynamics*)
Intrinsic viscosity
– Frictional properties of dilute polymer solutions. IV— - Felderhof **80A** (1975) 172
Invariance operator groups
– —*for a charged particle in an external electromagnetic field - Giovannini* . . **87A** (1977) 546
Ionic dissociation (see *Wien dissociation*)
Ionic liquids
– Microscopic theory of the long-wavelength modes of two component plasmas and—I. The transverse modes - Baus **88A** (1977) 319
– Microscopic theory of the long-wavelength modes of two-component plasmas and—II. The longitudinal modes - Baus **88A** (1977) 336
– Microscopic theory of the long-wavelength modes of two-component plasmas and—III. The space–time correlation functions - Baus **88A** (1977) 591
Ionized gases (see *Kerr effect*)
Ion pair distribution function see *Wien dissociation*)
Iron bromide (see *Metamagnetic Ising model*)
Iron chloride (see *Constant-coupling approximation*)
Irreversibility
– Some unusual elementary aspects of— - Monteiro **79A** (1975) 39
Irreversible processes (see *Equations of motion, Hard-spheres gas, Hydrodynamic matrices, Nonlinear irreversible processes*)
Irreversible thermodynamics (see *Chemical reactions, Critical fluctuations, Entropy production*)
Ising chain (see *One-dimensional Ising chain* and *One-dimensional XY-model*)
Ising ferromagnet
– The rigidity of the surface of phase separation in the Ising ferromagnet - Abraham and Heilmann **85A** (1976) 589
Ising model (see also *c-cyclic XY model, One-dimensional Ising model, One-dimensional Ising systems, Planar Ising model, Quasi-one-dimensional systems, Two-dimensional Ising model*)
– Real-space renormalization on a 3-D—(*Letter to the Editor*) - Fields and Fogel **80A** (1975) 411

– An extension of Kaufmann's transfer-matrix method in the— Sisson . . . **80A** (1975) 595
– Ising models with two- and three-spin interactions: Mean field equation of state - Frøyen *et al.* **85A** (1976) 399
Ising model in transverse fields
– Time-dependent *xx*-correlation functions in the one-dimensional *XY*-model - Perk and Capel **89A** (1977) 265
Ising spins (see *Molecular field deterioration*)
Ising system(s) (see also *Non-homogeneous Ising systems, Two-dimensional Ising systems*)
– The—with an interaction of finite range on the Cayley tree - Morita . . . **83A** (1976) 411
Isothermal resistivity (see *Interacting charged particles*)
Isotherms of ethylene
– Isotherms and thermodynamic properties of ethylene at temperatures between 0 and 150°C and at densities up to 500 amagat - Trappeniers *et al.* **82A** (1975) 305
Isotropic fluid (see *Brownian motion*)

Jacobi equation
– The averaging principle and the diagram technique - Deshpande **80A** (1975) 287

Kac-potentials
– Convex-envelope formulation for separable many-particle interactions - Perk *et al.* **89A** (1977) 555
Kadanoff scaling (see *Antiferromagnetic lattice*)
Kagome lattice (see *Glass-like phase*)
Kerr effect (see also *Alignment of a polar molecule, Molecular alignment*)
– Current induced—in weakly ionized, gases in the presence of a magnetic field - Köhler **86A** (1977) 159
Kiharu potentials (see *Virial equation of state*)
Kikuchi method
– Square lattice calculations for the general dimer and trimer problems using the— Kaye and Burley **87A** (1977) 499
Kinematical exciton levels
– Introduction to an analysis of— Pirić *et al.* **90A** (1978) 597
Kinetic gas theory (see also *Relativistic kinetic gas theory*)
– Variational principles for relativistic transport coefficients **79A** (1975) 569
Kinetics of charged particles in random electromagnetic fields
– Acceleration of test particles in one-dimensional random force fields - Grappin **88A** (1977) 435
Kinetic theory (see also *Bimocular quasi-resonant processes, Binary collision expansion, Binary gas mixture, Boltzmann equation, Boltzmann's collision equation, Boundary conditions, Brownian motion, Coarse-grained entropy, Collision operator, Cyclic collisions, Dichotomic Markov process, Diffusion of clusters, Dynamics viscosity, Enskog equation, Fokker–Planck equation, Hard-spheres gas, Intercollisional interference effects, Kirkwood–Salsburg operator, Landau–Lifshitz friction, Liouville operator, Lorentz gas, Markovian kinetic equation, Master equation, Nematic phase of a fluid, Nonlinear Fokker–Planck equation, Nonlinear Langevin equations, Nonlinear processes, Nonlinear transport theory, One-dimensional hard-rod systems, One-particle propagator, Perturbation expansion technique, Plasma kinetic equations, Quantum statistical mechanics, Reduced density matrices, Relativistic Boltzmann theory, Rotational relaxation, Self-diffusion constant, Single-particle density matrix, Sonine polynomials, Suspension of spheres, Three-particle kinetic operator, Truncation procedure, Two-body interactions, Two-dimensional correlation functions, Vlasov equation*)
– Some formal aspects of subdynamics - Grecos *et al.* **80A** (1975) 421

– On the theory of boundary conditions - Waldmann and Vestner **80A** (1975) 523
– Structure and diffusion in mixtures of rare-gas liquids - Jacucci and McDonald **80A** (1975) 607
—of the plasma-dynamical modes and the transport coefficients of a relativistic plasma - Balescu and Paiva - Veretennicoff **81A** (1975) 17
– Green function theory of dynamic conductivity - Wagh **81A** (1975) 369
– –of diffusion in liquids: A hydrodynamic approximation - Kuščer and Corngold **82A** (1975) 195
– Projection formalism in the— - Vstovsky **83A** (1976) 454
– On the relation between linear and nonlinear kinetic equations - Shimizu . . **85A** (1976) 147
– Response of an ideal gas in an external potential - Kreuzer and Teshima . . **87A** (1977) 453
– —of reacting systems - Eu and Li **88A** (1977) 135
– Herleitung kinetischer Gleichungen mit dem verallgemeinerten Stratonovich-Verfahren - Gerlich und Kagermann **88A** (1977) 283
– On the diffusion operator of the multivariate master equation - Van den Broeck *et al.* **89A** (1977) 481
– A connection between deterministic motion and the steady-state probability distribution - Görtz **90A** (1978) 360
– On the derivation of dynamical equations for a system with an interface. I. General theory - Ronis *et al.* **90A** (1978) 487
– On the derivation of the Fokker–Planck equation from generalized kinetic equations - Brey **90A** (1978) 57

Kinetic theory for rarefied gases (see *Heat-flow birefringence*)

Kinetic theory of gases
– On surface integrals for triple collision integrals in—Eu **88A** (1977) 158
– A stochastic approach to the— Malek-Mansour *et al.* **88A** (1977) 407
– Three-particle collision effects in the transport properties of a gas of hard spheres - Sengers *et al.* **90A** (1978) 365

Kirkwood–Salsburg operator
– Derivation and spectrum of a generalized— Moraal **81A** (1975) 469
– Spectral properties of the— Moraal **87A** (1977) 331

Kirkwood superposition approximation
– Several properties of the KSA nondiagrammatic cluster $\chi'(r)$ - Stavn . . . **87A** (1977) 158

Klein–Gordon equation (see also *Higher order field equations, Relativistic quadratic quantum systems*)
– A non-relativistic wave equation of second order in time for scalar fields - Tolhoek **81A** (1975) 535
– Relativistic charged particles in the field of an electromagnetic plane wave in a medium - Becker **87A** (1977) 601

Klimontovich equation (see *Vlasov equation*)

Knight shift
– Determination of isotropic and anisotropic—in V$_3$X compounds - Wulffers and Poulis **79A** (1975) 503

Knudsen diffusion (see *Diffusion coefficients*)

Korteweg–De Bries equation (see *First-order equations*)

Krypton (see also *Atomic scattering, Binary diffusion of monatomic gases, Mixtures of rare-gas mixtures, Vapour–liquid equilibrium, Viscosity of gases*)
– Self-diffusion in—compared with Van der Waals model - De Santis and Ricci **83A** (1976) 425
– Diffusion of Kr in Kr–CH_4 mixture - De Santis and Ricci **87A** (1977) 404

Krypton–methane mixture
– Diffusion of Kr in Kr–CH_4 mixture - De Santis and Ricci **87A** (1977) 404

Kubo formula (see *Dynamic conductivity*)

Lambda transition (see *Liquid helium four*)

Lamb shift (see *Radiation processes*)

Landau–Ginzburg–Wilson model

– The—in 2 and $2+\varepsilon$ dimensions at low temperatures–Myerson **90** (1978) 431
Landau–Lifshitz friction
– Nonlinear-closed equations for the first and the second moments of macroscopic variables - Shimizu **83A** (1976) 486
Landau theory of diamagnetism
– Diamagnetism of a confined electron gas - Felderhof and Raval **82A** (1975) 151
Langevin diffusion (see *Molecular motions*)
Langevin equation(s) (see also *Critical dynamics, Hydrodynamics, Morifriction kernel, Nonlinear Langevin equations, Onsager–Machlup function, Quantum oscillator*)
– A generalized—for the angular velocity of a spherical brownian particle from fluctuating hydrodynamics - Hills **80A** (1975) 360
– Long-time tails and brownian motion - Michaels and Oppenheim **81A** (1975) 221
Langmuir plasmons
– Interaction of an electromagnetic wave with oscillations in solids - Suramlishvili **84A** (1976) 411
Lasers (see also *Coupled lasers, Unclamped spiking in lasers*)
– A theorem on bath-system correlation functions - Casagrande and Milani . **87A** (1977) 411
Laser light (see *Doubly scattered laser light*)
Lattice clusters (see *Atomic cluster probabilities*)
Lattice dynamics (see *Spherical model, Stochastic n-vector model, Thermal resistivity*)
Lattice dynamics and crystal statistics (see *Transverse Ising model*)
Lattice fluid systems (see *Nonequilibrium Ornstein–Zernike equation*)
Lattice gas(es) (see also *Ising model*)
– Phase transitions in—with attractions. Some approximate results - Orban . **80A** (1975) 379
– Random-walk theory and correlation functions in classical statistical mechanics - Robledo and Farquhar **84A** (1976) 435
– Random-walk theory and ordered phases in—systems - Robledo and Farquhar **84A** (1976) 449
– Random-walk theory and the decay pair correlations in Ornstein–Zernike lattice systems - Robledo and Farquhar **84A** (1976) 472
Lattice-gas model
– Three-phase equation of state by the— - Chan and Tanaka **89A** (1977) 149
(*Lattice*) *Green function* (see *Lattice gas*)
Lattice model
– An extended—of liquid helium four - Meijer and Scherer **80A** (1975) 447
Lattice spin model (see *Multicritical point*)
Lattice statistics (see *Cayley tree, Classical lattice systems, Quasi-one-dimensional systems, Renormalization group method, Sixteen-vertex model*)
Lattice theory (see also *Antiferromagnetic lattice, Dimers, Electrostatic lattice potentials, Green's functions diagrammatic technique, Hamiltonian walks, Renormalization, XY model*)
– Group structure analysis for classical lattice systems with constraints. II. Zeroes of the partition function and unicity of states - Hintermann and Gruber **84A** (1976) 101
– Ising models with two- and three-spin interactions: Mean field equation of state - Frøyen *et al.* **85A** (1976) 399
Lattice vibrations (see *Bi-lattices, Disorderend crystals*)
Laurent hamiltonian system
– Evolution of observables in a— - Grecos and Mareschal **83A** (1976) 419
Lennard–Jones fluid (see *Dense rare gases*)
Lepton interactions (see *$e\bar{e}\nu\bar{\nu}$-mixture*)
Light absorption in molecular gases
– Experimental investigation of the nonequilibrium velocity distribution function in a heat conducting gas - Baas *et al.* **89A** (1977) 73

Light propagation
- On the propagation of light in media with higher multipole densities - Adu-Gyamfi and Felderhof **81A** (1975) 295
Light scattering (see also *Depolarized light scattering* and *Electron gas*)
- —from a system with vibrational degrees of freedom: approximation calculation of dispersion relations - Weinberg (*Letter to the Editor*) **79A** (1975) 256
- On the theory of multiple scattering. I-Boots *et al.* **79A** (1975) 397
- A phenomenological theory of—by surfaces. I. General theory - Vlieger and Bedeaux **82A** (1975) 221
- Theory of light scattering from a system of interacting Brownian particles - Hess and Klein **85A** (1976) 509
Light scattering by brownian particles
- Photon time-interval statistics of laser light scattered by brownian particles - Timmermans and Zijlstra **88A** (1977) 600
Light scattering by molecules (see *Flow birefringence*)
Light scattering by surfaces
- A phenomenological theory of light scattering by surfaces. II. Rough surfaces - Vlieger and Bedeaux **85A** (1976) 389
Linear chain (see also *Correlation functions of linear chain, Ergodic properties of linear chain, Heisenberg chain, Phonon–solitary wave interaction*)
- Kinetics of clusters in a binary linear system - Hilhorst **79A** (1975) 171
- Phase transition in a—of classical spins with a logarithmic nearest neighbour pair potential - Niemeijer and Ruijgrok **86A** (1977) 200
Linear chain of molecules
- Cooperative decay of a—including explicit spatial dependence - Ben Aryeh and Ruschin **88A** (1977) 362
Linear disordered systems
- On the electronic energy spectrum of linear models for disordered systems - Scheire **88A** (1977) 607
Linear hydrodynamic mode theory (see *Heisenberg paramagnets*)
Linear hydrodynamics (see *Surface force density*)
Linearized Boltzmann equation(s) (see *Multi-component systems, Transport coefficients*)
Linear-lattice gas (see *Lattice gas*)
Linear molecules
- Statistical mechanics of—. i. percus–Yevick and convolution-hypernetted-chain approximations - Moraal **83A** (1976) 33
- Statistical mechanics of linear molecules. II. Density expansions, intermolecular potentials and virial coefficients - Moraal **83A** (1976) 57
Linear polarizability (see *Structural modulation*)
Linear response of a system
- Theory of—in a strongly driven state with application to double resonance - Rebsch **84A** (1976) 143
Line shape (see CF_4 *gas*)
Line shape function (see *Intercollisional interference effects*)
Liouville equation(s) (see also *Wigner distribution function*)
- The averaging principle and the diagram technique - Deshpande **80A** (1975) 287
- *S*-operator (matrix) formalism for the Liouville and Von Neumann equations and the approach to equilibrium - Leaf **81A** (1975) 163
Liouville operator(s) (see also *Spectrum of Liouville operators and Squarewell Liouville operators*)
- The—for the step-type interparticle interaction - Domaradzki **86A** (1977) 169
Lipid bilayer (see *Two-dimensional biomembrane model*)
Lippmann–Schwinger equations (see *S-operator formalism*)

Liquid argon (see also *Molecular dynamics*)
– Coordination number in— Brostow and Sicotte **80A** (1975) 513
Liquid crystals (see *Cholesteric liquid crystals, Maier–Saupe model*)
Liquid ethane
– Molecular motions in—studied by cold neutron scattering - Olsson and Larsson **80A** (1975) 203
Liquid helium (see also *Interacting bosons, Second virial coefficient, Structure factor for interacting bosons*)
– Microscopic theory of liquid ^{4}He - Samulski and Isihara **86A** (1977) 257
– Structure factor for a Bose fluid - Khanna and Sinha **89A** (1977) 613
Liquid helium II
– A note on the multi-branch structure of the excitation spectra in— Sridhar **80A** (1975) 405
Liquid helium four
– An extended lattice model of— Meijer and Scherer **80A** (1975) 447
Liquid metals (see *Schwarz–Ehrenreich closure relations*)
Liquid oxygen
– Measurements of the viscosity of compressed gaseous and— Haynes . . **89A** (1977) 569
Liquid phases (see *Equilibrium of liquid phases*)
Liquids (see also *Alignment of non-polar molecules, Balance equations, Dielectric liquids, Diffusion in liquids, Macromolecular liquids, Molecular liquids, NMR spectroscopy, Nonpolar liquids, Polar liquids, spin–spin interactions, Statistical theory of liquids*)
– On the classes of integral equations nonderivable by graph theory means: An improved molecular theory for classical—in equilibrium - Demendy . . . **86A** (1977) 587
– Structural correlations and the "structural diffusion" model for— Baer . . **87A** (1977) 569
Liquid sodium
– The structure factor and the transport properties of dense fluids having molecules with a square well potential, a possible generalization - Sharma and Sharma **89A** (1977) 213
Liquid–solid transition (see *Quantum crystals*)
Liquid surface (see *Interfacial systems*)
Liquid structure factor (see *Liquid helium*)
Liquid–vapour equilibrium (see *Principle of corresponding states*)
Liquid–vapour transitions (see *Liquid argon*)
Local-field model (see *Molecular alignment*)
Local-field tensor (see *Light propagation*)
Local flow effects
– Rheology of polymer suspensions. I.— Felderhof **82A** (1975) 596
Local strain (see *Rheology*)
Local structure parameters
– Structural correlations and the "structural diffusion" model for liquids - Baer **87A** (1977) 569
Local velocity field (see *Polymer suspensions*)
Longitudinal correlation function
– The dynamical—of the Heisenberg model at low temperatures - Dewel . . **82A** (1975) 365
Longitudinal elastic waves (see *Potential waves*)
Long range correlations
– —and the onset of chemical instabilities - Lemarchand and Nicolis **82A** (1975) 521
Long-range interactions (see *Two-point correlations*)
Long-wave approximation (see *Van der Waals binding energy*)
Long-wavelength excitations
– Long-wavelength fluctuation spectra of charged *versus* neutral one-component systems - Baus **79A** (1975) 377
Lorentz–Dirac equation (see *Covariant equations of motion*)
Lorentz gas
– Kinetic equation for the dilute—with attractive forces - Wojnar and Stecki . **84A** (1976) 316

– On relativistic kinetic gas theory. XVIII. Diffusion in a—of hard spheres - Kox **84A** (1976) 603
Low-dimensional systems (see *Landau–Ginzburg–Wilson model*)
Low-energy electron diffraction theory
– The role of Frenkel excitons in—for molecular crystals - Nuyts and Phariseau **90A** (1978) 260
Lyapunov functionals
– Investigation of the stability of Boltzmann's collision equation by a family of—-Maass **89A** (1977) 411

Macromolecular liquids (see also *Non-Newtonian viscosity*)
– Dynamic viscosity of—for a superposition of static and oscillating velocity gradients – Hess **87A** (1977) 273
Magnetic chain (see *One-dimensional Heisenberg magnet*)
Magnetic dipole (see *Covariant equations of motion*)
Magnetic double resonance
– Theory of linear response of a system in a strongly driven state with application to double resonance - Rebsch **84A** (1976) 143
Magnetic energy diffusion (see *Two-spin dynamic autocorrelations*)
Magnetic equation of state (see *Ising model*)
Magnetic excitations
– Thermodynamic properties of ferromagnets with uniaxial and biaxial anisotropy - Micnas **89A** (1977) 431
Magnetic interactions (see also *One-dimensional classical Heisenberg model*)
– On a soluble model of an antiferromagnetic chain with alternating interactions and magnetic moments - Perk *et al.* **81A** (1975) 319
Magnetic linear chain
– The determination of the ground-state energy of an antiferromagnetic lattice by means of a renormalization procedure - Van de Braak *et al.* **87A** (1977) 354
Magnetic phase diagram(s) (see *Glass-like phase, Metamagnetic Ising model, Multicritical point, Separable many-particle interactions*)
Magnetic phase transition(s) (see also *Quasi one-dimensional systems, Spin-pair systems*)
– Crossover exponent to order $\varepsilon^3(\varepsilon = 4 - d)$ in isotropic N-component spin systems - Yamazaki **90A** (1978) 58
Magnetic relaxation
– On dielectric—phenomena and vectorial internal degrees of freedom in thermodynamics - Kluitenberg **87A** (1977) 302
Magnetic susceptibility (see also *Antiferromagnetic chain, Biquadratic interactions, Hubbard model, One-dimensional Heisenberg model*)
– Note on the difference between the a-cyclic and c-cyclic version of the *XY* model - Capel and Siskens **81A** (1975) 214
– On the susceptibility of the one-dimensional Ising chain - Van Dongen and Capel **84A** (1976) 285
– Phase transition in a linear chain of classical spins with a logarithmic nearest neighbour pair potential - Niemeijer and Ruijgrok **86A** (1977) 200
– On the thermodynamics of the random one-dimensional Ising chain in a transverse field - Braeter and Kowalski **87A** (1977) 243
Magnetization (see also *Antiferromagnetic chain, c-cyclic XY model, Constant-coupling approximation, Dipole–dipole interactions, Equilibrium magnetization-recovery curve, Ferromagnetic dipolar spinwaves, Green-function theory, Heisenberg ferromagnet, One-dimensional Heisenberg model, one-dimensional XY model*)
–Kinetics of clusters in a binary linear system - Hilhorst **79A** (1975) 171
– Nonlinear response to external-magnetic fields - Reichl **79A** (1975) 312
Magneto-acoustic oscillations (see *Electron gas*)

Magnons (see also *Biquadratic exchange systems*)
– Low-temperature spectrum and damping of elementary excitations in biquadratic exchange systems ($S = 1$) - Westwański and Skrobiś **87A** (1977) 155
Maier–Saupe model
– Monte-Carlo study of the—on square and triangle lattices - Mountain and Ruijgrok **89A** (1977) 522
Mandelstamm–Brillouin scattering
– Interaction of an electromagnetic wave with oscillations in solids - Suramlishvili **84A** (1976) 411
Manhattan square lattice see (*Hamiltonian walks*)
Many-body hamiltonians
– A class of exactly soluble—with the interaction of substance and boson field - Bogolubov, Jr. and Plechko **82A** (1975) 163
Markoff process (see *Irreversibility*)
Markovian kinetic equation(s) (see also *Reduced density matrices*)
– Derivation of classical Markovian kinetic equations via generating— Kalashnikov and Auslender **85A** (1976) 71
Master equation (see also *Multitime correlation functions*)
– Remarks concerning the derivation and the expansion of the— Razavy . . **84A** (1976) 591
Mathematical physics (see *Higher order field equations*)
Matthiesen's rule (see *Interacting charged particles*)
Mayer–Montroll equations (see *Kirkwood–Salsburg operator*)
Mazur–Oppenheim equation (see *Brownian motion*)
Melting (see *Polymer configurations*)
Memory function (see also *Mori friction kernel*)
– Dynamical current correlations in simple liquids - Kahol *et al.* **87A** (1977) 192
Metal–insulator phase transition
– An exactly solvable model for— Brankov *et al.* **79A** (1975) 125
Metals (see also *Electron gas, Electron–impurity interaction, One-dimensional Hubbard model*)
Metamagnetic Ising model
– Phase diagram and critical points for a—using constant coupling approximation - Maijer and Stamm **90A** (1978) 77
Metastable fluid states
– Static aspects of a model for—(*Letter to the Editor*) - Haus and Meijer . . **80A** (1975) 313
Methane (see *Bulk viscosity, Dense gas mixtures, Gases at high pressures, Proton magnetic shielding constant, Self-diffusion, Vibrational relaxation, Virial equation of state*)
Methane–rare gas mixtures (see *Vibrational relaxation*)
Methanol (see *Polar liquids*)
Microcanonical ensembles (see *Nonlinear response theory*)
Minimum energy dissipation (see *Frictional properties*)
Mixed spin systems (see *Quasi-one-dimensional systems*)
Mixing theory (see *Dimers*)
Mixtures (see *Van der Waals equation of state*)
Mixtures of rare-gas liquids
– Structure and diffusion in— Jacucci and McDonald **80A** (1975) 607
Mobility (see *Brownian particle in a periodic field*)
Mode coupling (see *Nonlinear Fokker–Planck equation*)
Mode-coupling theory (see *Critical dynamics*)
Mode–mode coupling theory (see *Heisenberg paramagnets*)
Modified Enskog theory
– Analysis of the transport coefficients for simple dense fluids: The diffusion and bulk viscosity coefficients – Hanley and Cohen **83A** (1976) 215

– The self-diffusion coefficient in the gas phase at moderate densities, obtained by computer simulation - Michels and Trappeniers **90A** (1978) 179
Molecular alignment
– Alignment of polarizable dipoles on a lattice - Biemond *et al.* **79A** (1975) 52
Molecular collisions (*see also Diffusion of clusters, Flow birefringence, Heat flow birefringence, Irreversibility, Scattering of light from a fluid, Velocity distribution function, Viscomagnetic effect*)
– Formal study of a chemical reaction by Grad expansion of the Boltzmann equation. I. - Moreau **79A** (1975) 18
– Vibrational relaxation time measurements in CH_4 and CH_4–rare gas mixtures - De Vasconcelos and De Vries **86A** (1977) 490
– Vibrational relaxation in CD_4 and CD_4-rare gas mixtures - De Vasconcelos . **88A** (1977) 395
Molecular correlations (see *Bulk viscosity*)
Molecular crystals (see also *Dielectric susceptibility tensor, Low-energy electron diffraction theory*)
– On the dielectric properties of—. II. First-order spatial dispersion and optical activity - Hafkenscheid and Vlieger **79A** (1975) 517
Molecular diffusion
– Structural correlations and the "structural diffusion" model for liquids - Baer **87A** (1977) 569
Molecular distribution functions
– On the classes of integral equations nonderivable by graph theory means: An improved molecular theory for classical liquids in equilibrium - Demendy . **86A** (1977) 587
Molecular dynamics (see also *Binary mixtures of dilute gases, Mixtures of rare-gas liquids, Phonon–solitary wave interaction*)
– —studies of an *m*-6-8 fluid - Hanley and Watts **79A** (1975) 351
– Dynamical current correlations in simple liquids - Kahol *et al.* **87A** (1977) 192
– The self-diffusion coefficient in the gas phase at moderate densities, obtained by computer simulation-Michels and Trappeniers **90A** (1978) 179
Molecular field approximation for biaxial ferromagnets
– Thermodynamic properties of ferromagnets with uniaxial and biaxial anisotropy - Micnas **89A** (1977) 431
Molecular field deterioration
– On a model of— Thompson **79A** (1975) 113
Molecular field theory (see *Biquadratic exchange systems, Separable many-particle interactions, Transverse Ising model*)
Molecular gases (see also *Brownian motion, Kerr effect*)
– The influence of nuclear spins on the transport properties of—and application to HD - Coope *et al.* **79A** (1975) 129
– On the quantum kinetic equation for—. II. Noncentral interaction - Petrus . **82A** (1975) 273
Molecular interaction(s) (see also *Dense fluids, Dielectric virial coefficient, Electric polarisation, Flow birefringence, Local structure parameters, Nondiagrammatic cluster, Nonspherical molecules, Virial coefficients, Virial equation of state*)
– On the theory of the alignment of a polar molecule in a non-polar solvent - Biemond *et al.* **83A** (1976) 358
Molecular interaction potentials (see *Molecular dynamics*)
Molecular liquids
– The corrected Enskog theory and the transport properties of molecular liquids - Van Loef **87A** (1977) 258
Molecular motions
– —in liquid ethane studied by cold neutron scattering - Olsson and Larsson . **80A** (1975) 203
Molecular-orbital model
– Alternant molecular-orbital excitations by the generator-coordinate method in the electron gas - Laskowski *et al.* **80A** (1975) 561

Molecular potential scattering (see *Second virial coefficient*)
Molecular rotation friction
– Particle rotation and translation in a fluid with spin - Hynes *et al.* **87A** (1977) 427
Molecular scattering theory
– On the calculation of the transition matrix for an arbitary potential - Scheire **84A** (1976) 188
Molecule–molecule collisions (see *Rotational relaxation*)
Momentum balance
– On the momentum of potential waves - Broer **83A** (1976) 471
Momentum correlation function (see *Mori friction kernel*)
Momentum distribution function (see *Electron gas*)
Momentum relaxation (see *Nonlinear Fokker–Planck equation*)
Monoatomic gases (see *Quantum kinetic equation*)
Monomer–dimer mixture (see *Dimers*)
Monomer–trimer mixture (see *Dimers*)
Mori equation (see *Brownian motion*, see *Nonlinear Langevin equations*)
Mori friction kernel
– Microscopic theory of brownian motion:—and Langevin-equation derivation - Hynes *et al.* **80A** (1975) 105
Motion of a sphere
– On the—with arbitrary slip in a viscous incompressible fluid - Albano *et al.* . **80A** (1975) 89
MSW approach
– The electronic structure of arbitrarily shaped atomic clusters. A formal— Scheire **81A** (1975) 613
Muffin tin approximation (see *Atomic clusters*)
Multicomponent gas mixture (see *Transport coefficients*)
Multi-component systems
– Variational principles for calculation of transport coefficients— Anderson . **85A** (1976) 287
Multicritical point
– Exactly solvable model exhibiting a— Hornreich *et al.* **86A** (1977) 465
Multiple scattering
– On the theory of—II. Critical scattering - Boots *et al.* **84A** (1976) 217
Multipole expansion (see *Electromagnetic multipole operators*)
Multipole interaction of molecules
– Influence d'une microstructure dans l'absorption integrée des liquides polaires - Bossis **88A** (1977) 535
Multipole moments of molecules (see *Light propagation*)
Multipole particle (see *Covariant equations of motion*)
Multitime correlation functions
– Generalized regression theorem for open system - Lugiato **85A** (1976) 18
Multivariate stochastic processes
– MacDonald's theorem and Milatz's theorem for— Van Vliet **86A** (1977) 130
Mutual diffusion
– Structure and diffusion in mixtures of rare-gas liquids - Jacucci and McDonald **80A** (1975) 607
Mutual diffusion coefficients (see *Self-diffusion*)

Navier–Stokes equation (see *Immiscible fluids*, *Surface force density*, *Trilinear mode effects*)
ND_3 (see *Viscomagnetic effect*)
Nematic phase of a fluid
– Mouvement Brownien dans une assemblée de bâtonnets minces dans la phase nématique - Bailly **85A** (1976) 528
Neon (see also *Flow birefringence*, *Mixtures of rare-gas liquids*, *noble gases*, *Viscosity of gases*)
– Parameters of the exponential-six potential model for— Áurea Cunha and Laranjeira **87A** (1977) 202

Neon–argon mixture (see *Dense gas mixtures*)
Neon–krypton mixtures (see *Thermal diffusion*)
Neutrino–antineutrino system
– Relativistic kinetic theory of quantum systems. II. Neutrino–antineutrino system - De Boer and Van Weert **85A** (1976) 566
Neutrino gas
– Relativistic kinetic theory of quantum systems. III. Transport equation for a neutrino system - De Boer and Van Weert **86A** (1977) 67
– Relativistic kinetic theory of quantum systems. IV. Transport equation for the neutrino component of an $e\bar{e}\nu_e\bar{\nu}_e$-mixture - Siskens and Van Weert . . . **86A** (1977) 80
– Mathematical aspects of relativistic kinetic theory - Dijkstra and Van Leeuwen **90A** (1978) 450
Neutrino–neutrino scattering (see *Weinberg–Salam model*)
Neutron scattering (see *Cold neutron scattering and Liquid argon*)
NF_3 (see *Viscomagnetic effect*)
NH_3 (see *Viscomagnetic effect*)
NH_2D
– Experimental investigation of the nonequilibrium velocity distribution function in a heat conducting gas - Baas *et al.* **89A** (1977) 73
Nickel (see *Impurities in Ising-type systems*)
Niobium (see *Ginzburg–Landau parameter*)
Nitrogen (see *Bulk viscosity, Flow birefringence, Gas of nonspherical molecules, Van der Waals equation of state, Virial equation of state, Viscosity of gases*)
NMR spectrometer
– High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. I. High pressure—and experimental technique - Oldenziel and Trappeniers **82A** (1975) 565
NMR spectroscopy
– High resolution—in liquids and gases at pressures up to 2500 bar. I. High pressure NMR spectrometer and experimental technique - Oldenziel and Trappeniers **82A** (1975) 565
– High resolution—in liquids and gases at pressures up to 2500 bar. II. Density dependence of the proton magnetic shielding constants in the nonpolar gases methane and ethylene - Trappeniers and Oldenziel **82A** (1975) 581
– High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. III. Density dependence of the proton magnetic shielding constants in the polar liquids methanol and ethanol - Oldenziel and Trappeniers **83A** (1976) 161
– High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. IV. Density dependence of the ^{13}C–H indirect spin–spin coupling constant in gaseous methane - Trappeniers and Oldenziel **83A** (1976) 173
N_2O (see *Viscomagnetic effect*)
Noble-gas crystals (see *Van der Waals binding energy*)
Noble gases
– Dielectric alignment of a non-polar molecule substituting a polar molecule in a lattice of molecular dipoles - Lekkerkerker *et al.* **88A** (1977) 375
– Isotopic thermal diffusion factors of the— - Santamaría *et al.* **89A** (1977) 90
Noether's theorem (see *First-order equations*)
Noise (see *Black-body radiation, Phonon gas*)
Noise in semiconductors (see *Multivariate stochastic processes*)
Noncentral interaction
– On the quantum kinetic equation for molecular gases. II.— Petrus . . . **82A** (1975) 273
Nonclassical equation of state (see *Verschaffelt's work*)
Nondiagrammatic cluster
– Several properties of the KSA—$\chi'(R)$ - Stavn **87A** (1977) 158

Non-equilibrium (see *Entropy production*)
Nonequilibrium Ornstein–Zernike equation
– On the relationship between continuous—nonequilibrium Ornstein–Zernike equation - Budgor and Robledo **85A** (1976) 329
Nonequilibrium phase transition
– Stochastic analysis of a—: some exact results - Nicolis and Turner **89A** (1977) 326
Nonequilibrium phenomena (see also *Fokker–Planck equation*)
– On the functional integral for generalized Wiener processes— Dekker . . **85A** (1976) 598
Nonequilibrium processes (see also *Single-particle density matrix*)
– Linked-cluster expansions in the equations of motion method for— Der and Haberlandt **79A** (1975) 597
Non-equilibrium statistical mechanics (see *Coarse-grained entropy, Collision operator*)
Nonequilibrium system(s) (see also *Linear response of a system*)
– Time-path method for the evolution of reduced density matrices in— Hall . **80A** (1975) 369
Non-equilibrium thermodynamics (see also *Boundary conditions*)
– Boundary conditions and— Bedeaux *et al.* **82A** (1975) 438
– —of interfacial systems - Kovac **86A** (1977) 1
Non-homogeneous Ising systems
– A simple way of understanding some exact results on critical phenomena in non-homogeneous and finite Ising systems (Ferrell's continuum approximation). I. - Decker and Hahn **83A** (1976) 143
Nonlinear Dicke model (see *Dicke model*)
Nonlinear electronic system
– On series expansions in a— Lewiner and Calecki **86A** (1977) 601
Nonlinear fluctuations
– On the application of the Onsager–Machlup function to—of a thermodynamic variable - Moreau **90A** (1978) 410
Nonlinear Fokker–Planck equation
– Microscopic theory of brownian motion. III. The— Hynes *et al.* **81A** (1975) 509
Nonlinear interactions (see *Wave–wave interacting systems*)
Nonlinear irreversible processes (see also *Nonlinear transport theory*)
– On—I - Ueyama **84A** (1976) 392
– On—II. The case of even and odd variables - Ueyama **84A** (1976) 402
– Asymptotic solutions of Fokker–Planck equations for—and generalized Onsager–Machlup theory - Eu **90A** (1978) 288
Nonlinear Langevin equations
– Microscopic theory of brownian motion. II.— Hynes *et al.* **81A** (1975) 485
Nonlinear oscillator (see *Fluctuations in a nonlinear oscillator*)
Nonlinear processes (see also *Nonequilibrium phenomena*)
– Time-local gaussian processes, path integrals and nonequilibrium nonlinear diffusion - Dekker **85A** (1976) 363
Nonlinear rate processes
– Stochastic theory of—with multiple stationary states - Oppenheim *et al.* . . **88A** (1977) 191
Nonlinear response
– —to external-magnetic fields - Reichl **79A** (1975) 312
Nonlinear response theory
– —for inhomogeneous systems in various ensembles - Ronis and Oppenheim **86A** (1977) 475
Nonlinear transport theory
– A model for symmetries in nonlinear transport - Rodríguez and Van Kampen **82A** (1975) 352
Non-local field equation (see *Higher order field equations*)
Non-localized single-particle electron states
– A particle in a box in the presence of an electric field and applications to disordered systems - Lukes *et al.* **84A** (1976) 421

Non-local separable potential scattering
– Time evolution in a two-component system with catalytic reactions - Kreuzer and Kurihara **87A** (1977) 94
Non-Newtonian viscosity
– —and normal pressure associated with the flow alignment in macromolecular liquids - Hess **86A** (1977) 383
Nonpolar dense gases
– Some remarks on the theory of the dielectric constant of— Nijboer . . . **80A** (1975) 398
Nonpolar fluid(s) (see also *Light propagation*)
– On the theory of multiple scattering. I - Boots *et al.* **79A** (1975) 397
– On the dielectric constant for a non-polar fluid, a comparison - Høye and Bedeaux **87A** (1977) 288
Nonpolar liquids
– A theory of electric polarisation in liquids. I.— Omini **83A** (1976) 431
Nonpolar molecules (see *Gas of nonspherical molecules*)
Nonspherical intermolecular potential (see *Linear molecules*)
Nonspherical molecules (see also *Binary mixtures of fluids, Gas of nonspherical molecules*)
– On the existence of the thermodynamic limit for classical systems with non-spherical potentials - Moraal **79A** (1975) 75
Nuclear spins
– The influence of—on the transport properties of molecular gases and application to HD - Coope *et al.* **79A** (1975) 129
Nyquist theorem (see *Fluctuation theory*)

OCS (see *Viscomagnetic effect*)
Octane (see *Virial equation of state*)
One-dimensional alternating XY-model
– Time correlation functions and ergodic properties in the alternating *XY*-chain - Perk *et al.* **89A** (1977) 304
One-dimensional classical Heisenberg model
– Renormalization group solution of the— Niemeijer and Ruijgrok **81A** (1975) 427
One-dimensional Coulomb gas
– Collective modes in some Fokker–Planck Coulomb systems: One-dimensional case - Das **87A** (1977) 167
One-dimensional gas (see also *Homonuclear diatomic molecules*)
– The exact nonlinear driven response of a— Karkheck **89A** (1977) 57
One-dimensional gas models
– Numerical evaluation for classical one-dimensional gas of hard rods with an interaction of finite range - Fukui and Morita **79A** (1975) 83
One-dimensional hard-rod systems
– Solution de l'équation de Boltzmann pour des bâtonnets durs unidimensionnels - Résibois **90A** (1978) 273
One-dimensional Heisenberg magnet
– The classical—in an external magnetic field. Transfer matrix formalism as an application of renormalization group theory "avant la lettre" - Ruijgrok and Neimeijer **84A** (1976) 336
One-dimensional Heisenberg model
– Classical—with an interaction of finite range - Morita and Horiguchi . . . **83A** (1976) 519
One-dimensional Hubbard model
– A modified Green's function determination of the conduction and insulator limit conductivities of the one-dimensional, half-filled band, Hubbard model - Smith and Lawson **83A** (1976) 505
One-dimensional Ising chain
– On the susceptibility of the— Van Dongen and Capel **84A** (1976) 285

- On the thermodynamics of the random—in a transverse field - Braeter and Kowalski **87A** (1977) 243
One-dimensional Ising model
- Exact renormalization transformation for the—with finite range interaction - Smit and Vertogen **87A** (1977) 623
- Statistical mechanics of one-dimensional Ising and Potts models with exponential interactions - Viswanathan and Mayer **89A** (1977) 97
One-dimensional Ising systems
- Thermodynamic limit for the—with random interaction of finite range - Morita **87A** (1977) 117
One-dimensional spin systems
- Comments on renormalization group series - Siegert *et al.* **89A** (1977) 427
One-dimensional XY-model (see also *c-cyclic XY model*)
- Autocorrelation function of the X-component of the magnetization in the—- Capel and Perk **87A** (1977) 211
- Time-dependent xx-correlation functions in the—- Perk and Capel **89A** (1977) 265
One-particle energy distribution function (see *Nematic phase of a fluid*)
One-particle propagator
- Kinetic approach to the long-time behaviour in fluids. III. The—- Theodosopulu and Résibois **82A** (1975) 47
Onsager–Machlup function
- On the application of the—to non-linear fluctuations of a thermodynamic variable - Moreau **90A** (1978) 410
Onsager–Machlup theory
- Asymptotic solutions of Fokker–Planck equations for nonlinear irreversible and generalized—- Eu **90A** (1978) 288
Onsager reciprocal relations (see *Dielectric phenomena*)
Onsager relations (see also *Boltzmann equation, Nonlinear irreversible processes*)
- Relativistic Boltzmann theory for a plasma. II. Reciprocal relations - Van Erkelens and Van Leeuwen **89A** (1977) 225
Open systems
- Theory of—. I. - Lugiato **81A** (1975) 565
- Theory of—. II. An application; the single-mode laser - Lugiato **82A** (1975) 1
Optic-acoustic effect
- Vibrational relaxation in CD_4 and CD_4 – rare gas mixtures - De Vasconcelos **88A** (1977) 395
Optical absorption (see *Black-body radiation*)
Optical activity
- On the dielectric properties of molecular crystals. II. First-order spatial dispersion and—- Hafkenscheid and Vlieger **79A** (1975) 517
- On the propagation of light in media with higher multipole densities - Adu-Gyamfi and Felderhof **81A** (1975) 295
Optical properties of crystals
- On the dielectric properties of molecular crystals. III. Composite lattices - Hafkenscheid and Vlieger **85A** (1976) 129
Order–disorder phase transitions (see *Green's functions diagrammatic technique*)
Order parameter (see *Takagi model*)
Order-parameter correlations
- Scaling function for—in expansion to order $1/n$. I. Short-range interactions - Theumann **80A** (1975) 25
Order-parameter field (see *Phase transitions*)
Order parameter fluctuations
- Inequalities among static and dynamic critical-point exponents - Alexanian and Martinez-Garcilazo **89A** (1977) 583

Orientational deformation (see *Cholesteric liquid crystals*)
Ornstein–Zernike equation (see *Nonequilibrium Ornstein–Zernike equation*)
Ornstein–Zernike lattice systems (see *Random - walk theory*)
Ornstein–Zernike relation (see *Linear molecules*)
Ornstein–Zernike theory (see *Multiple scattering*)
Oscillator–radiation field interaction (see *Quantum oscillator*)
Oscillatory field (see *External magnetic fields*)
Oxygen (see also *Heat conductivity, Viscosity of gases*)
– Heat-flow birefringence in gaseous O_2 - Baas *et al.* **88A** (1977) 44
Oxygen–argon gas mixtures (see *Heat conductivity*)
Oxygen molecules (see *Diatomic molecules*)

Pair correlation functions (see *Linear molecules*)
Pair correlations
– Iterative method for the calculation of atomic cluster probabilities from—in binary systems - De Ridder **79A** (1975) 217
Pair creation (see *Klein–Gordon equation*)
Pair distribution function (see *Square-well potential*)
Pair interactions (see *Gas of nonspherical molecules*)
Pair-production interaction (see *Two-body interactions*)
Parity (see *Electromagnetic multipole operators*)
Particle–electromagnetic wave interaction in plasmas (see *Generalized Rosenbluth potentials*)
Particle in a box
– A—in the presence of an electric field and applications to disordered systems - Lukes *et al.* **84A** (1976) 421
Particle momentum modes (see *Nonlinear Langevin equations*)
Particle transport theory
– A fluctuation problem in—I - Williams **86A** (1977) 535
– A fluctuation problem in—II - Williams **88A** (1977) 561
Path integrals
– Time-local gaussian processes, path integrals and nonequilibrium nonlinear diffusion - Dekker **85A** (1976) 363
Pauling's electrostatic volume rule (see *Atomic cluster probabilities*)
Pauli operators (see *Green's functions diagrammatic technique*)
PCT theorem (see *Scalar fields*)
Percus–Yevick approximation (see *Random-walk theory*)
Percus–Yevick equation (see also *Linear molecules*)
– Analytic solution of the—for sticky hard sphere potential - Jelínek and Nezbeda **84A** (1976) 175
Permeability
– Comments on the Debije–Brinkman equation - Wiegel and Mijnlieff . . . **85A** (1976) 207
Permeability of macromolecules (see also *Two-dimensional biomembrane model*)
– Intrinsic viscosity and friction coefficient of permeable macromolecules in solution - Wiegel and Mijnlieff **89A** (1977) 385
Perturbation expansion technique
– Zur Begründung der Klimontovichnäherung - Kagermann **83A** (1976) 595
PF_3 (see *Viscomagnetic effect*)
PH_3 (see *Viscomagnetic effect*)
Phase cells (see *Coarse-grained entropy*)
Phase diagrams (see also *Biquadratic exchange interaction*)
– Phase transitions with several order parameters - Schulman **89A** (1977) 597
Phase equilibria (see *Liquid argon*)
Phase separation

- The rigidity of the surface of phase separation in the Ising ferromagnet - Abraham and Heilmann **85A** (1976) 589
Phase transition(s) (see also *Constraints in first order phase transitions. Data cluster analysis, Dicke model, Gas of point particles, Hubbard identity, Ising model, Linear chain, Magnetic excitations, Maier–Saupe model. Many-body hamiltonians, Metal–insulator phase transition, Metastable fluid states, One-dimensional Ising chain, Quantum crystal, Renormalization, Renormalization group method, Stochastic n-vector model, Transverse Ising model, Triangular spin lattice*)
- Exactly soluble models for distortive structural— - Schneider *et al.* **79A** (1975) 201
- —in lattice gases with attractions. Some approximate results - Orban . . . **80A** (1975) 379
- Nonlinear Dicke superradiance models: nonexistence of a— - Gambardella . **80A** (1975) 550
- Lack of phase transition in the Dicke model with external fields - Provost *et al.* **85A** (1976) 202
- —with several order parameters - Schulman **89A** (1977) 597
Phonon gas
- Theory of $1/f$ fluctuation of particle concentration in thermal equilibrium - Musha **80A** (1975) 387
Phonon instability (see *Langmuir plasmons*)
Phonons (see also *Anharmonic oscillator, Two-level tunneling system*)
- Hydrodynamics of an *n*-component phonon system - Sasvári *et al.* **81A** (1975) 108
Phonons and vibrations in crystal lattices (see *Transverse Ising model*)
Phonon–solitary wave interaction **88A** (1977) 53
- The interaction of a solitary wave solution with phonons in a one-dimensional model for displacive structural phase transitions - Hasenfratz and Klein . . **89A** (1977) 191
Photoconductivity
- On the interaction of a black-body radiation field with a photoconductor - Van Vliet and Zijlstra **89A** (1977) 353
Photon gas (see *Dicke model*)
Photon statistics (see *Black-body radiation*)
Photon time-interval statistics
- —of laser light scattered by brownian particles - Timmermans and Zijlstra . **88A** (1977) 600
Planar ferromagnet
- Microscopic theory of hydrodynamic modes in a— - Morozov **90A** (1978) 196
Planar Ising model
- Higher-order correlation functions of the— - Bariev **83A** (1976) 388
Plasma (see also *Relativistic Boltzmann theory*)
- Relativistic Boltzmann theory for a—. III. Viscous phenomena - Van Erkelens and Van Leeuwen **90A** (1978) 97
Plasma-dynamical modes
- Kinetic theory of the—and the transport coefficients of a relativistic plasma - Balescu and Paiva–Veretennicoff **81A** (1975) 17
Plasma-dynamical normal modes
- On the relativistic plasma-dynamical and hydrodynamical normal modes - Balescu and Brenig **84A** (1976) 1
Plasma kinetic equations (see also *Markovian kinetic equation*)
- Microscopic theory of the long-wavelength modes of two-component plasmas and ionic liquids. I. The transverse modes - Baus **88A** (1977) 319
- Microscopic theory of the long-wavelength modes of two-component plasmas and ionic liquids. II. The longitudinal modes - Baus **88A** (1977) 336
Plasma kinetic theory (see *Generalized Rosenbluth potentials*)
Plasma oscillation (see *Electron gas*)
Plasma wave propagation (see *Plasma kinetic equations*)
Plasmon–particle collisions (see *Turbulent plasma*)
Plasmons (see *Langmuir plasmons*)

Plastic flow theory
- A thermodynamic discussion of the possibility of singular yield conditions in plasticity theory - Kluitenberg **88A** (1977) 122
Poincaré algebra
- Representations of the –, spin algebras and the infinite-momentum frame - Beckers *et al.* **79A** (1975) 338
Poincaré subgroup (see *Electromagnetic fields*)
Point dipole–quadrupole lattice
- On the dielectric properties of molecular crystals. III. Composite lattice - Hafkenscheid and Vlieger **85A** (1976) 129
Polar fluids
- On the second dielectric virial coefficient of nonspherical— Singh **89A** (1977) 219
Polar gases
- The viscomagnetic effect in— Van Ditzhuyzen *et al.* **88A** (1977) 53
Polarizability (see *Dielectric constant, Polar liquids*)
Polarizable dipoles (see *Polar multicomponent mixture*)
Polarization (see *Dielectric phenomena*)
Polar liquids (see also *Electric polarization*)
- Alignment of polarizable dipoles on a lattice - Biemond *et al.* **79A** (1975) 52
- High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressures up to 2500 bar. III. Density dependence of the proton magnetic shielding constants in the—methanol and ethanol - Oldenziel and Trappeniers **83A** (1976) 161
- A theory of electric polarisation in liquids. II.— Omini **84A** (1976) 129
- Influence d'une microstructure dans l'absorption integrée des liquides polaires - Bossis **88A** (1977) 535
Polar molecule(s) (see *Alignment of a polar molecule, Electric polarization, Virial coefficients*)
Polar multicomponent mixture
- Zur Theorie polarer Multikomponentsysteme - Winkelmann **83A** (1976) 276
Polarons (see *Two-level tunneling system*)
Polymer chain
- The end-to-end distribution function of a—with a pairwise additive self-interaction - Mooy and Hijmans **82A** (1975) 543
Polymer configurations
- Hamiltonian walks and— Malakis **84A** (1976) 256
Polymers (see also *Diffusion of polymers, Dilute polymer solutions, Permeability, Permeability of macromolecules, Suspension of spheres, Two-dimensional bio-membrane model*)
- Square lattice calculations for the general dimer and trimer problems using the Kikuchi method **87A** (1977) 499
Polymer suspensions
- Rheology of—. I. Local flow effects - Felderhof **82A** (1975) 596
- Rheologyof—. II. Translation, rotation and viscosity - Felderhof **82A** (1975) 611
Population inversion (see *Coupled lasers*)
Positron–neutrino spin flip (see *Weinberg–Salam model*)
Potential waves
- On the momentum of —Broer **83A** (1976) 471
Potts model
- Statistical mechanics of a one-dimensional Ising and — with exponential interactions - Viswanathan and Mayer **89A** (1977) 97
Pressure induced optical line shift (see *Intercollisional interference effects*)
Principle of corresponding states
- The—and the dynamic properties of simple liquids - Rouch et al. **88A** (1977) 347
Probability theory

– Data cluster analysis: abrupt transition - Falk and Falk **90A** (1978) 325
Probability theory, stochastic processes and statistics
– A functional Stieltjes measure and generalized diffusion processes - Dekker **87A** (1977) 419
Probability variation method (see *Atomic cluster probabilities*)
Projection-operator formalism
– *S*-operator (matrix) formalism for the Liouville and Von Neumann equations and the approach to equilibrium - Leaf **81A** (1975) 163
Projection technique (see *Kinetic theory*)
Propagators (see *Spectral concentration in quantum systems*)
Proton magnetic shielding constant(s)
– High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressure up to 2500 bar. II. Density dependence of the photon magnetic shielding constants in the nonpolar gases methane and ethylene - Trappeniers and Oldenziel **82A** (1975) 581
– High resolution nuclear magnetic resonance spectroscopy in liquids and gases at pressure up to 2500 bar. III. Density dependence of the — in the polar liquids methanol and ethanol - Oldenziel and Trappeniers **83A** (1976) 161
Pseudospin correlation functions
– Dipolar interaction in the transverse Ising model of H-bonded ferroelectrics - Dumont and Dagonnier **80A** (1975) 490
Pseudospin lattice systems
– Generating functional approach to the Green's functions diagrammatic technique for spin and —. I. General theory - Walasek **88A** (1977) 497
– Generating functional approach to the Green's functions diagrammatic technique for spin and —. II. Diagrammatic method for generalized Pauli operators - Walasek **88A** (1977) 517
Pseudo-spin model in order–disorder transitions
– About the MFA transition temperature for the transverse Ising model with a dipolar interaction - Dumont **89A** (1977) 419
Pulsed NMR method
– Dense-gas diffusion coefficients in the methane–carbon tetrafluoride system by pulsed nuclear magnetic resonance - Khoury and Kobayashi **80A** (1975) 1
PVT-diagram (see *Isotherms of ethylene*)

Quadrons (see also *Biquadratic exchange systems*)
– Low-temperature spectrum and damping of elementary excitations in biquadratic exchange systems ($S = 1$) - Westwański and Skrobiś **87A** (1977) 515
Quadrupolar interaction (see *Knight shift*)
Quantum crystal
– — with jumps of particles - Yukalov **89A** (1977) 363
Quantum electrodynamics
– A manifestly gauge-invariant formulation of — - Balescu and Poulain . . **79A** (1975) 559
Quantum field theory (see *Higher order field equations, Relativistic quadratic quantum systems, Scalar fields*)
Quantum fluids (see *Excitation spectra*)
Quantum imperfect gas (see *Dynamic conductivity*)
Quantum kinetic equation
– On the — for molecular gases. II. Noncentral interaction - Petrus **82A** (1975) 273
Quantum oscillator
– Quantum statistical effects of the motion of an oscillator interacting with a radiation field - Braun and Godoy **86A** (1977) 337
Quantum statistical mechanics (see also *Charged bosons, molecular-orbital excitations*)
– Classical and — in a common Liouville space - Twareque and Prugovečki . **89A** (1977) 501

Quantum systems (see *Relativistic kinetic theory, Spectral concentration in quantum systems*)
Quasi-one-dimensional systems
– Statistical mechanics of quasi-one-dimensional systems - Moraal **85A** (1976) 457

Radial distribution function (see also *Statistical theory of liquids*)
– Radial distribution function and second virial coefficient for interacting bosons - Khanna and Mehrotra **85A** (1976) 616
Radiation damping
– On the covariant equations of motion with explicit —. II. Comparison with the theory of Bhabha and Harish-Chandra - Van Weert **80A** (1975) 234
– On the covariant equations of motion with explicit —. III. The Lorentz–Dirac equation and its generalization to a magnetic dipole particle - Van Weert . **80A** (1975) 247
Radiation field (see *Plasma-dynamical modes*)
Radiation processes
– A renormalization approach to many-atom — - Takatsuji **84A** (1976) 68
Radiation reaction (see *Radiation damping*)
Radiative decay of two-level molecules (see *Linear chain of molecules*)
Raman scattering (see *Intercollisional interference effects*)
Randomly diluted ferromagnets
– Excitations in randomly diluted two-dimensional ferromagnets - McGurn and Tahir-Kheli **86A** (1977) 553
Random-spin systems
– Critical behavior in — with long-range interactions - Yamazaki **90A** (1978) 547
Random walks
– On the relationship between continuous — nonequilibrium Ornstein–Zernike equation - Budgor and Robledo **85A** (1976) 329
Random-walk theory
– — and correlation functions in classical statistical mechanics - Robledo and Farquhar **84A** (1976) 435
– — and ordered phases in lattice-gas systems - Robledo and Farquhar . . . **84A** (1976) 449
– — and the decay of pair correlations in Ornstein–Zernike lattice systems - Robledo and Farquhar **84A** (1976) 472
Rarefied gas dynamics
– On the theory of boundary conditions - Waldmann and Vestner **80A** (1975) 523
Rarefied gases (see *Friction of particle motion in gases, Nonlinear transport theory*)
Rare gases (see *Atomic scattering, Transport coefficients*)
Rate equations
– Minimum entropy production and logarithmic— - Wangsness **79A** (1975) 543
Rayleigh–Fokker–Planck equation
– The approach to hard-sphere brownian motion: variational eigenfunctions and the evaluation of the — - Houare and Kaplinsky **81A** (1975) 349
Rayleigh integrated depolarization
– Collision-induced scattering for molecules - Gharbi and Le Duff **87A** (1977) 177
Rayleigh particle
– A model for symmetries in nonlinear transport - Rodriguez and Van Kampen **82A** (1975) 352
Rayleigh scattering (see *Collision induced scattering, Flow birefringence, Heat-flow birefringence*)
Reaction diffusion systems
– On the diffusion operator of the multivariate master equation - Van Den Broeck et al. **89A** (1977) 9
Reaction operator formalism (see *Spectral concentration in quantum systems*)
Reduced density matrices
– Time-path method for the evolution of — in nonequilibrium systems - Hall . **80A** (1975) 369

Refractive index (see *Electric polarisation*)
Relativistic Boltzmann theory
- On relativistic kinetic gas theory. XV. The Ritz method in — - Van Leeuwen **81A** (1975) 249
- — for a plasma. I. The entropy production - Van Erkelens and Van Leeuwen **89A** (1977) 113
- — for a plasma. II. Reciprocal relations - Van Erkelens and Van Leeuwen . **89A** (1977) 225

Relativistic Chapman–Enskog method (see *Sound propagation*)
Relativistic covariance (see *Coulomb gauge, Quantum electrodynamics*)
Relativistic fluids (see *Plasma-dynamical normal modes*)
Relativistic gas (see *Transport coefficients*)
Relativistic gas of hard spheres
- On the correct forms of the transport coefficients for a — - Anderson and Kox **89A** (1977) 408

Relativistic hydrodynamics
- The laws of relativistic thermodynamics. I. The macroscopic quantities - De Groot **88A** (1977) 172

Relativistic kinetic gas theory
- On —. XIV. Transport coefficients of a binary mixture. General expressions - Van Leeuwen *et al.* **79A** (1975) 233
- On —. XV. The Ritz method in relativistic Boltzmann theory - Van Leeuwen **81A** (1975) 249
- On —. XVI. The temperature dependence of the transport coefficients for a simple gas of hard spheres - Kox *et al.* **84A** (1976) 155
- On —. XVII. Diffusion and thermal diffusion in a binary mixture of hard spheres - Kox *et al.* **84A** (1976) 165
- On —. XVIII. Diffusion in a Lorentz gas of hard spheres - Kox **84A** (1976) 603
- On —. XIX. The electron–neutrino system - De Groot *et al.* **84A** (1976) 613

Relativistic kinetic theory (see also *Neutrino gas*)
- — of quantum systems. I. Wigner functions for a relativistic spin-$\frac{1}{2}$ system - Van Weert and De Boer **81A** (1975) 597
- Relativistic kinetic theory of quantum systems. II. Neutrino–antineutrino system - De Boer and Van Weert **85A** (1976) 566
- — of quantum systems. V. Transport equations for the massive components of an $e\bar{e}\nu_\ell\bar{\nu}_\ell$-mixture - Siskens and Van Weert **87A** (1977) 369
- The laws of relativistic thermodynamics. I. The macroscopic quantities - De Groot **88A** (1977) 172
- The laws of relativistic thermodynamics. II. The density, momentum and energy laws - De Groot **88A** (1977) 183
- Transition amplitudes and probabilities for the Weinberg–Salam model - Siskens and Van Weert **89A** (1977) 163
- Mathematical aspects of — - Dijkstra and Van Leeuwen **90A** (1978) 450

Relativistic kinetic theory of gases (see also *Variational principles for transport coefficient*)
- The relativistic Burnett equations and sound propagation - Anderson and Payne, Jr. **85A** (1976) 261

Relativistic plasma(s) (see also *Plasma-dynamical normal modes, Vlasov equation*)
- Kinetic theory of the plasma-dynamical modes and the transport coefficients of a — - Balescu and Paiva–Veretennicoff **81A** (1975) 17
- Relativistic Boltzmann theory for a plasma. II. Reciprocal relations - Van Erkelens and Van Leeuwen **89A** (1977) 225

Relativistic quadratic quantum systems
- Coherent states and Green functions of relativistic quadratic systems - Dodonov *et al.* **82A** (1975) 113

Relativistic spin-$\frac{1}{2}$ system
- Relativistic kinetic theory of quantum systems. I. Wigner functions for a — - Van Weert and De Boer **81A** (1975) 597

Relativistic statistical mechanics (see *Vlasov equation*)

Relativistic thermodynamics
- The laws of —. I. The macroscopic quantities - De Groot **88A** (1977) 172
- The laws of —. II. The density, momentum and energy laws - De Groot . . **88A** (1977) 183
- The laws of —. III. The entropy law - De Groot **88A** (1977) 425

Relativistic transport theory
- Relativistic Boltzmann theory for a plasma. III. Viscous phenomena–Van Erkelens and Van Leeuwen **90A** (1978) 97

Relaxation of orientational order (see *Cholesteric liquid crystals*)
Relaxation phenomena (see *Coarse-grained entropy, Superradiance*)
Relaxation time (see *Magnetization*)
Renormalization (see also *Bogoliubov–Parasiuk theorem, Two-dimensional Ising system*)
- Real-space — on a 3-D Ising model (*Letter to the Editor*) - Fields and Fogel **80A** (1975) 411

Renormalization group (dynamic) (see *Stochastic n-vector model*)
Renormalization group method(s) (see also *One-dimensional Ising model*)
- Application of the renormalization group method to the $s = \frac{1}{2}XY$ model on the triangular lattice - Rogiers and Betts **85A** (1976) 553

Renormalization group series
- Comments on — - Siegert *et al.* **89A** (1977) 427

Renormalization group theory (see also *Scaling theory*)
- Renormalization group solution of the one-dimensional classical Heisenberg model - Niemeijer and Ruijgrok **81A** (1975) 427
- The classical one-dimensional Heisenberg magnet in an external magnetic field. Transfer matrix formalism as an application of — "avant la lettre" - Ruijgrok and Niemeijer **84A** (1976) 336
- Critical behavior in anisotropic cubic systems with long-range interactions - Yamazaki **90A** (1978) 535
- Critical behavior in random-spin systems with long-range interactions - Yamazaki **90A** (1978) 547

Renormalization group transformation
- On Kadanoff's approximate — - Knops **86A** (1977) 448

Renormalization of kinetic coefficients
- On the relation between linear and nonlinear kinetic equations - Shimizu . . **85A** (1976) 147

Renormalization theory (see also *Antiferromagnetic lattice, Critical exponents, Triangular spin lattice*)
- Thermodynamic properties of fluids near the critical point, as interpreted by a simplified — and the self-limitation of fluctuations - Rice and Chang . . . **83A** (1976) 18

Representations
- — of the Poincaré algebra, spin algebras and the infinite-momentum frame - Beckers *et al.* **79A** (1975) 338

Response function (see *Stochastic n-vector model*)
Response theory (see *Nonlinear response theory*)
Rheology
- — of polymer suspensions. I. Local flow effects - Felderhof **82A** (1975) 596
- — of polymer suspensions. II. Translation, rotation and viscosity - Felderhof **82A** (1975) 611

Risken equation (see *Single-mode laser*)
Ritz variational technique
- On relativistic kinetic gas theory. XV. The Ritz method in relativistic Boltzmann theory - Van Leeuwen **81A** (1975) 249

Rod-like molecules (see *Diffusion of polymers*)
Rotational diffusion coefficient
- Renormalization of the — in a fluctuating fluid - Hills and Deutch **83A** (1976) 401

Rotational excitation
- — of HD by collisions with He - Procaccia and Levine **82A** (1975) 623

Rotational motion (see *Fluctuating hydrodynamics*)
Rotational relaxation
– — of spherical-top molecules by atoms - Bartis **82A** (1975) 134
Rough-sphere collision theory
– Rotational relaxation of spherical-top molecules by atoms - Bartis **82A** (1975) 134

Saturable absorption (see *Undamped spiking in lasers*)
Scalar fields
– A non-relativistic wave equation of second order in time for — - Tolhoek . **81A** (1975) 535
Scaling (see *Two-dimensional Ising system*)
Scaling function
– — for order-parameter correlations in expansion to order $1/n$. I. Short-range interactions - Theumann **80A** (1975) 25
– — for two-point correlations with long-range interactions to order $1/n$ - Theumann **83A** (1976) 85
Scaling theory (see also *Antiferromagnetic lattice, Superradiance*)
– — and finite systems - Nightingale **83A** (1976) 561
– Exact solution and — of superradiance - Arimitsu and Suzuki **90A** (1978) 303
Scattering (see *Light scattering*)
Scattering of electromagnetic radiation (see *Langmuir plasmons and Multiple scattering*)
Scattering of laser light (see *Doubly scattered laser light*)
Scattering of light (see also *Light scattering, Light scattering by surfaces*)
– Collision-induced scattering for molecules - Gharbi and Le Duff **87A** (1977) 177
– On the theory of multiple scattering. III. Light scattering from critical binary mixtures – Boots **87A** (1977) 185
Scattering of light by molecules
– On the dielectric constant for a non-polar fluid, a comparison - Høye and Bedeaux **87A** (1977) 288
Scattering of light from a fluid
– Depolarized light scattered from a fluid near its Bénard instability - Pasmanter and Oppenheim **84A** (1976) 507
Scattering of molecules (see *Catalytic reactions*)
Scattering theory (see *Lorentz gas, Multiple scattering, Random-walk theory and Statistical theory of liquids*)
Schrödinger equation
– A non-relativistic wave equation of second order in time for scalar fields - Tolhoek **81A** (1975) 535
Schwarz–Ehrenreich closure relations
– — for correlation functions in simple fluids - Popielawski **81A** (1975) 145
Second dielectriv virial coefficient
– — of a fluid of nonspherical molecules - Singh and Singh **87A** (1977) 207
Second law of thermodynamics (see *Dissipativity*)
Second-quantization method
– Diagonalization of the spin part of the exchange hamiltonian in the — method for composite particles - Marić and Popović-Božić **87A** (1977) 473
Second virial coefficient
– Radial distribution function and second virial coefficient for interacting bosons - Khanna and Mehrotra **85A** (1976) 616
– — at low temperatures - Kremp *et al.* **86A** (1977) 613
Second virial coefficient of pressure
– Parameters of the exponential-six potential model for neon - Áurea Cunha and Laranjeira **87A** (1977) 202
Self-avoiding walk approximation

– The *XY*-model and the — - Dekeyser and Reynaert **84A** (1976) 197
Self-avoiding walks
– Asymptotic behaviour of self-avoiding walks in continuous space - Janssens and Orban **85A** (1976) 409
Self-diffusion (see also *Neon*)
– Dense-gas diffusion coefficients in the methane–carbon tetrafluoride system by pulsed nuclear magnetic resonance - Khoury and Kobayashi **80A** (1975) 1
– Structure and diffusion in mixtures of rare-gas liquids - Jacucci and McDonald **80A** (1975) 607
– — in Kr compared with Van der Waals model - De Santis and Ricci . . . **83A** (1976) 425
Self-diffusion coefficient (see also *Bulk viscosity*, *Transport theory in two dimensions*)
– Molecular dynamics studies of an *m*-6-8 fluid - Hanley and Watts **79A** (1975) 351
– The corrected Enskog theory and the transport properties of molecular liquids - Van Loef **87A** (1977) 258
– Theory of the self-diffusion (spin diffusion) coefficient of an electron gas - Fujita **89A** (1977) 127
– Transport in two dimensions. I. The self-diffusion coefficient - Yuan and Oppenheim **90A** (1978) 1
– The — in the gas phase at moderate densities, obtained by computer simulations - Michels and Trappeniers **90A** (1978) 179
– Transport in two dimensions. II. — at low densities - Yuan and Oppenheim . **90A** (1978) 561
Self-diffusion constant (see also *Trilinear mode effects*)
– The — for large heavy particles - Keyes and Oppenheim **81A** (1975) 241
Self-energy structures (see *External magnetic fields*)
Semiconductors (see *Langmuir plasmons*)
Senftleben–Beenakker effect (see *Flow birefringence* and *Heat-flow birefringence*)
Senftleben-effect
– The effect of a magnetic field on the heat conductivity of oxygen and oxygen–argon gas mixtures - Bhanja *et al.* **90A** (1978) 167
Separable hamiltonian systems
– Spectral properties of Liouville operators and their physical interpretation - Spohn **80A** (1975) 323
Separable interactions (see also *Separable many-particle interactions*)
– On the free energy in systems with —. III. - Tindemans and Capel **79A** (1975) 478
Separable many-particle interactions
– Systems with separable many-particle interactions. I. - Den Ouden *et al.* . . **85A** (1976) 51
– Systems with separable many-particle interactions. II. - Den Ouden *et al.* . **85A** (1976) 425
– Convex-envelope formulation for — - Perk *et al.* **89A** (1977) 555
Series expansion (see *Takagi model*, see *XY model*)
Series expansions and critical phenomena
– Planar classical Heisenberg model with biquadratic interactions - Chen *et al.* **87A** (1977) 629
SF_6 (see *Viscomagnetic effect*)
Shear viscosity (see also *Gaseous oxygen*, *Gas of hard spheres*, *Liquid sodium*, *Plasma-dynamical modes*, *Principle of corresponding states*, *Relativistic transport theory*, *Transport coefficients*, *Transport properties*)
– Depolarized light scattering from simple fluids - Varatharajulu and Vezzetti . **85A** (1976) 623
– The effective — of a uniform suspension of spheres - Bedeaux *et al.* . . . **88A** (1977) 88
– Kinetic theory of reacting systems - Eu and Li **88A** (1977) 135
– Hydrodynamic interaction between two spheres - Felderhof **89A** (1977) 373
Short-memory approximation (see *Single-particle density matrix*)
Short-range interaction operators (see *Separable many-particle interactions*)
Short-range interactions (see *Scaling function*)
Sine–Gordon equation (see *Spin dynamics*)

Single-mode laser
- Theory of open systems. II. An application; the — - Lugiato **82A** (1975) 1
Single-particle density matrix (see also *Reduced density matrices*)
- Linked cluster expansions in the equations of motion method II. Kinetic equations for the — - Der and Haberlandt **86A** (1977) 25
Singular energy density (see *Boundary conditions*)
Sixteen-vertex model
- Symmetry relations in the — - Gaaff and Hijmans **80A** (1975) 149
- The complete system of algebraic invariants for the —. I. Derivation via the three-dimensional orthogonal group - Gaaff and Hijmans **83A** (1976) 301
- The complete system of algebraic invariants for the —. II. Derivation by means of the theory of algebraic invariants - Gaaff and Hijmans **83A** (1976) 317
Sliding friction between fluids
- Hydrodynamic response and free surface modes for two immiscible fluids - Bedeaux and Oppenheim **90A** (1978) 39
Slip boundary conditions (see *Motion of a sphere*)
Sodium carbonate
- On the theory of structural modulation of Na_2CO_3 - Fortuin **86A** (1977) 225
Soft mode(s) (see *Critical dynamics, Spherical model*)
Solid helium
- Quantum crystal with jumps of particles - Yukalov **89A** (1977) 363
Solitary waves (see *Spin dynamics*)
Solitons (see also *Phonon-solitary wave interaction*)
- —, gauge theories and the "great Einstein theorem" - Dresden and Chen . . **83A** (1976) 1
Sonine polynomials
- On the inadequacy of — in kinetic theory (*Letter to the Editor*) - Van Leeuwen **80A** (1975) 318
S-operator formalism
- *S*-operator (matrix) formalism for the Liouville and Von Neumann equations and the approach to equilibrium - Leaf **81A** (1975) 163
Soret coefficient (see *Thermal diffusion*)
Sound (see *Dispersion relations*)
Sound absorption (see *Bulk viscosity, Critical point exponents, Rotational relaxation*)
Sound dispersion (see *Critical point exponents*)
Sound pressure (see *Potential waves*)
Sound propagation
- The relativistic Burnett equations and sound propagation - Anderson and Payne, Jr. **85A** (1976) 261
- Microscopic theory of the long-wavelength modes of two-component plasmas and ionic liquids. II. The longitudinal modes - Baus **88A** (1977) 336
Sound velocity (see also *Liquid helium*)
- Calculation of — and structure factor for interacting bosons - Khanna and Mehrotra **89A** (1977) 626
Sound waves (see *Immiscible fluids*)
Space–time correlation functions (see *Two-compound plasmas*)
Spatial dispersion (see *Dielectric properties*)
Specific heat (see also *Antiferromagnetic chain, Constant-coupling approximation, Ferromagnetic dipolar spinwaves, Heisenberg ferromagnet, Hubbard model, Linear chain, Maier–Saupe model, Non-homogeneous Ising systems, Takagi model, XY model*)
- On the anisotropic Heisenberg chain - Van Dongen *et al.* **79A** (1975) 617
- The principle of corresponding states and the dynamic properties of simple liquids - Rouch *et al.* **88A** (1977) 347
- A simple way of understanding some exact results on critical phenomena in non-homogeneous and finite Ising systems. II. Cooperativity in periodically

layered systems - Decker and Hahn **89A** (1977) 37
Specific heat of crystalline helium
– Quantum crystal with jumps of particles - Yukalov **89A** (1977) 363
Spectral concentration in quantum systems
– Time evolution and —- Brändas **82A** (1975) 97
Spectrum of Liouville operators
– Spectral properties of Liouville operators and their physical interpretation - Spohn **80A** (1975) 323
Speer's formula (see *Bogoliubov–Parasiuk theorem*)
Spherical barrier (see *Step-type interparticle interaction*)
Spherical model (see also *Multicritical point*)
– Exactly soluble models for distortive structural phase transitions - Schneider *et al.* **79A** (1975) 201
Spherical molecules (see *Diffusion of polymers*)
Spherical top molecules
– Rotational relaxation of — by atoms - Bartis **82A** (1975) 134
Spin algebras
– Representations of the Poincaré algebra, — and the infinite-momentum frame - Beckers *et al.* **79A** (1975) 338
Spin correlation functions (see *One-dimensional Heisenberg model*)
Spin density (see *Relativistic spin-$\frac{1}{2}$ system*)
Spin density matrix (see *Spin–spin interactions*)
Spin diffusion (see also *Heisenberg paramagnets*)
– Particle rotation and translation in a fluid with spin - Hynes *et al.* **87A** (1977) 427
Spin-diffusion coefficient (see *Self-diffusion coefficient*)
Spin dynamics (see also *Landau–Lifshitz friction, Longitudinal correlation function*)
– On the dynamics of a continuum spin system - Lakshmanan *et al.* **84A** (1976) 577
– Long time behaviour of correlation functions in Heisenberg paramagnets - Borckmans *et al.* **88A** (1977) 261
– The dynamical longitudinal correlation function of the Heisenberg model at low temperatures. II. The hydrodynamic regime - Dewel **89A** (1977) 245
– Time correlation functions and ergodic properties in the alternating *XY*-chain Perk *et al.* **89A** (1977) 304
Spin glass (see *Heisenberg spin glass*)
Spin 1-Heisenberg ferromagnet
– Thermodynamic properties of ferromagnets with uniaxial and biaxial anisotropy - Micnas **89A** (1977) 431
Spin hydrodynamics
– Two-spin dynamic correlations and energy diffusion in the Heisenberg paramagnet - De Leener and Résibois **87A** (1977) 63
Spin lattice (see *Triangular spin lattice*)
Spin–lattice relaxation
– On the—in deformable ferromagnets - Maugin **81A** (1975) 454
Spin model (see *Liquid helium four*)
Spinodal curve (see *Renormalization theory*)
Spin ordering
– —in spin-pair systems: The *XY* model in an external field - Rogiers and Tachiki **87A** (1977) 614
Spin-pair systems
– Spin ordering in—: The *XY* model in an external field - Rogiers and Tachiki **87A** (1977) 614
Spin–spin coupling constant (see *Gases at high pressures*)
Spin–spin interactions
– Intermolecular—in liquids - Sakun **80A** (1975) 128
Spin statistics (see *Scalar fields*)
Spin systems (see *One-dimensional classical Heisenberg model*)

Spin wave interactions (see *Longitudinal correlation function, Three-magnon bound states*)
Spin waves (see also *Biquadratic exchange interaction, Faddeev equations, Green-function theory, Longitudinal correlation function*)
– Zero-point effects in biquadratic exchange systems - Skrobiś and Westwański **83A** (1976) 257
– On the dynamics of a continuum spin system - Lakshmanan *et al.* **84A** (1976) 577
– Ondes de spin dans un verre magnétique classique - Seiden **90A** (1978) 507
Spin wave scattering (see *Three-magnon bound states*)
Spin wave theory (see *Ferromagnetic dipolar spinwaves, Two-dimensional ferromagnets*)
Spontaneous emission (see *Radiation processes*)
Square Ising lattice (see *Renormalization group transformation*)
Square-lattice gas (see Lattice gas)
Square lattices (see *Maier–Saupe model*)
Square-well Liouville operator
– On the calculation of the classical Liouville operator for the step-type interparticle interaction - Altenberger **80A** (1975) 46
Square-well potential(s) (see also *Virial equation of state*)
– Numerical evaluation for classical one-dimensional gas of hard rods with an interaction of finite range - Fukui and Morita **79A** (1975) 83
Staggered susceptibility (see *One-dimensional Ising chain*)
Stark effect (see *Velocity distribution function*)
Static correlation functions
– On a soluble model of an antiferromagnetic chain with Dzyaloshinsky interactions. I - Siskens *et al.* **79A** (1975) 259
Static structure factor
– Static aspects of a model for metastable fluid states (*Letter to the Editor*) - Haus and Meijer **80A** (1975) 313
Statistical hydrodynamics
– —of cholesteric liquid crystals - Nemtsov **86A** (1977) 513
Statistical mechanics
– Einstein and the foundation of— Mehra **79A** (1975) 447
Statistical operators (see *Open systems*)
Statistical theory of liquids
– Application of methods of the scattering theory in the— Yulmetyev . . . **84A** (1976) 82
Steady-state probability
– A connection between deterministic motion and the—distribution - Gortz . **90A** (1978) 360
Steady states
– Minimum entropy production and logarithmic rate equations - Wangsness . **79A** (1975) 543
Step-type interparticle interaction
– On the calculation of the classical Liouville operator for the— Altenberger **80A** (1975) 46
Sticky hard sphere potential (see *Percus–Yevick equation*)
Stimulated emission fluctuations (see *Black-body radiation*)
Stochastic n-vector model
– Dynamic critical properties of a— Sasvári and Szépfalusy **87A** (1977) 1
– Critical dynamics of a—below T_c - Sasvári and Szépfalusy **90A** (1978) 626
Stochastic processes
– A comment on the reliability of the Toda criterion for the existence of a stochastic transition - Benettin *et al.* **87A** (1977) 381
– A theorem on bath-system correlation functions - Casagrande and Milani . **87A** (1977) 411
Stokes–Einstein law (see also *Self-diffusion constant*)
– Renormalization of the diffusion coefficient in a fluctuating fluid III. Diffusion of a brownian particle with finite size - Bedeaux and Mazur **80A** (1975) 189
Stratonovich's method

– Eine Verallgemeinerung des Stratonovichverfahrens für Anwendungen in der statischen Mechanik - Gerlich **82A** (1975) 477
– Herleitung kinetischer Gleichungen mit dem verallgemeinerten Stratonovich-Verfahren - Gerlich und Kagermann **88A** (1977) 283
Structural modulation
– On the theory of—of Na_2CO_3 - Fortuin **86A** (1977) 224
Structural phase transition(s) (see also *BCS superconductor, Spherical model*)
– Hydrodynamics of an *n*-component phonon system - Sasvári *et al.* **81A** (1975) 108
– Equation of state of a classical anharmonic oscillator - Wehner and Baeriswyl **81A** (1975) 129
– The interaction of a solitary wave solution with phonons in a one-dimensional model for displacive— Hasenfratz and Klein **89A** (1977) 191
Structure factor
– The—and the transport properties of dense fluids having molecules with a square well potential, a possible generalization - Sharma and Sharma . . . **89A** (1977) 213
– —for a Bose fluid - Khanna and Sinha **89A** (1977) 613
Structure factor for interacting bosons
– Calculation of sound velocity and— Khanna and Mehrotra **89A** (1977) 626
Structure of liquids (see *Liquid argon*)
Subdynamics
– Some formal aspects of— Grecos *et al* **80A** (1975) 421
Superconductivity
– Tunneling junction as an open system. Normal tunneling - Ono **90A** (1978) 342
Superconductor(s) (see also *BCS superconductor*)
– The Ginzburg–Landau parameter in the case of non-pure superconductors - De Lillo and Mancini **87A** (1977) 391
Superconductors with structural distortion
– On the relation between two models for superconductors with a structural distortion - Brankov and Tonchev **84A** (1976) 534
Superfluid ^3He
– Bogoliubov transformation for a spatially varying gap - Wootters **90A** (1978) 317
Superfluidity (see also *Excitation spectra*)
– Microscopic theory of liquid ^4He - Samulski and Isihara **86A** (1977) 257
Superradiance (see also *Linear chain of molecules, Radiation processes*)
– —and energy transfer within a system of atoms - Stone *et al.* **84A** (1976) 1
– Fluctuation in— Suzuki **84A** (1976) 48
– Scaling theory of fluctuation in—relaxation from the complete inversion - Suzuki **86A** (1977) 622
– Exact solution and scaling theory of— Arimitsu and Suzuki **90A** (1978) 303
Surface force density
– Force density induced on a sphere in linear hydrodynamics. I. Fixed sphere, stick boundary conditions - Felderhof **84A** (1976) 557
– Force density induced on a sphere in linear hydrodynamics. II. Moving sphere, mixed boundary conditions - Felderhof **84A** (1976) 569
Surface modes
– Hydrodynamic response and—for two immiscible fluids - Bedeaux and Oppenheim **90A** (1978) 39
Surface susceptibilities (see *Light scattering*)
Surface tension (see *Verschaffelt's work*)
Susceptibility (see also *Antiferromagnetic chain, Constant-coupling approximation, Critical fluctuations, Generalized Nyquist relation, Heisenberg ferromagnet, Two-point correlations*)
– On the anisotropic Heisenberg chain - Van Dongen *et al.* **79A** (1975) 617
Suspension of spheres
– The effective shear viscosity of a uniform— Bedeaux *et al.* **88A** (1977) 88

Swieca–Marques equation (see *Higher order field equations*)
Symmetry (see also *Subdynamics*)
– Electromagnetic fields with—- Combe and Sorba **80A** (1975) 271
Symmetry groups of e.m. fields
– Invariance operator groups for a charged particle in an external electromagnetic field - Giovannini **87A** (1977) 546
Symmetry relations
– —in the sixteen-vertex model - Gaaff and Hijmans **80A** (1975) 149

Takagi model
– Series expansions for a generalized *XY* hamiltonian. II. Tricritical behaviour of the—- Rogiers *et al.* **81A** (1975) 93
Tantalum (see *Ginzburg–Landau parameter*)
Theory of liquid structure (see *Lattice gases*)
Theory of quantized fields (see *Coupled lasers* and *Dicke super-radiance model*)
Thermal conduction (see *Relativistic Boltzmann theory*)
Thermal conductivity (see also *Binary mixtures of dilute gas, Plasma-dynamical modes, Principle corresponding states, Transport coefficients, Transport properties*)
– Transport in two dimensions. I. The self-diffusion coefficient - Yuan and Oppenheim **90A** (1978) 21
Thermal conductivity in gases (see *Neon*)
Thermal conductivity of liquids
– The corrected Enskog theory and the transport properties of molecular liquids - Van Loef **87A** (1977) 258
Thermal diffusion (see also *Binary mixture of hard spheres, Relativistic Boltzmann theory, Transport coefficients*)
– On the two-component Bénard problem. A numerical solution - Legros *et al.* **80A** (1975) 76
– Influence of a magnetic field on diffusion and—in gaseous mixtures - Eggermont *et al.* **82A** (1975) 23
– Law of corresponding states and—factor of Ne–Kr and Ar–Kr mixtures - Santamaría *et al.* **83A** (1976) 615
– Law of corresponding states and—factor of He–Ar mixtures from two-bulb measurements - Santamaría *et al.* **84A** (1976) 212
Thermal diffusion factors
–Isotopic—- of the noble gases - Santamaría *et al.* **89A** (1977) 90
Thermal-equilibrium approximation (see *Chemical kinetics*)
Thermal fluctuations
– Current density and field fluctuations in a conducting medium - Felderhof . **89A** (1977) 205
Thermal resistivity
—due to three-photon normal processes - Joshi *et al.* **81A** (1975) 475
Thermal transpiration
– Generalized hydrodynamics of—, thermal force and friction force - Vestner and Waldmann **86A** (1977) 303
Thermodynamic limit
– On the existence of the—for classical systems with nonspherical potentials - Moraal **79A** (1975) 75
Thermomagnetic torque (see *Transport properties*)
Three-body forces (see *Molecular dynamics*)
Three-liquid-phase region (see *Equilibrium of liquid phases*)
Three-magnon bound states
– — in the two-dimensional isotropic and anisotropic Heisenberg ferromagnet - Van Himbergen and Tjon **82A** (1975) 389
Three-magnon scattering T matrix (see *Faddeev equations*)

Three-particle collision effects
- —in the transport properties in a gas of hard spheres - Sengers *et al.* . . . **90A** (1978) 365
Three-particle kinetic operator
-On the structure of the three-particle operator in generalized kinetic equations for inhomogeneous gases - Brey **86A** (1977) 191
Three-phase equation of state
- —by the lattice gas model - Chain and Tanaka **89A** (1977) 149
Three-phonon normal processes
-Thermal resistivity due to— Joshi *et al.* **81A** (1975) 475
Three-state subsystems (see *Entropy production*)
Three-wave interactions (see *Wave–wave interacting systems*)
Time correlation functions (see *Binary collision expansion*)
Time evolution
- On the—of large systems: A soluble model with two-body interactions - Kreuzer and Capri **81A** (1975) 411
Time reversal (see *Electromagnetic multipole operators*)
Torque on a sphere (see *Faxén theorem*)
Transfer matrix formalism (see *One-dimensional Heisenberg magnet*)
Transfer-matrix method
- An extension of Kaufmann's—in the Ising model - Sisson **80A** (1975) 595
Transformation theory (see *Subdynamics*)
Transition temperature (see also *Constant-coupling approximation*)
- Three-level approximation for interacting boson—calculation - Khanna and Mehrotra **81A** (1975) 311
Translational friction coefficient
- Frictional properties of dilute polymer solutions. III.— Felderhof **80A** (1975) 63
Transport coefficients (see also *Sonine polynomials*)
- The interpretation of—on the basis of the Van der Waals model. II. Extension to dilute gases - Dymond **79A** (1975) 65
- Variational principles for relativistic— Anderson **79A** (1975) 569
- Kinetic theory of the plasma-dynamical modes and the—of a relativistic plasma - Balescu and Paiva–Veretennicoff **81A** (1975) 17
- On relativistic kinetic gas theory. XV. The Ritz method in relativistic Boltzmann theory - Van Leeuwen **81A** (1975) 249
- Trilinear mode effects on— Michaels and Oppenheim **81A** (1975) 522
- An exact treatment of some integrals appearing in the three-body contributions to— Ronis and Oppenheim **84A** (1976) 620
Transport equation(s) (see also *Disordered crystals, Interacting Brownian particles*)
- Mathematical aspects of relativistic kinetic theory - Dijkstra and Van Leeuwen **90A** (1978) 450
Transport in two dimensions
- —III. Self-diffusion coefficient at low densities - Yuan and Oppenheim . . **90A** (1978) 561
Transport phenomena (see also *Diffusion in liquids, Gas of hard spheres*)
- On relativistic kinetic gas theory. XIV. Transport coefficients of a binary mixture. General expressions - Van Leeuwen *et al.* **79A** (1975) 233
- Brownian motion and hydrodynamic fluctuations near the convective instability point (*Letter to the Editor*) - Lekkerkerker **80A** (1975) 415
Transport phenomena in gaseous mixtures
- The viscosity and diffusion coefficients of eighteen binary gaseous mixtures - Kestin *et al.* **88A** (1977) 242
Transport phenomena in gases (see also *Viscomagnetic effect*)
- Experimental investigation of the nonequilibrium velocity distribution function in a heat conducting gas - Baas *et al.* **89A** (1977) 73
Transport phenomena in plasmas (see *Two-compound plasmas*)

Transport phenomena in spin systems (see *Planar ferromagnet*)
Transport processes (see *Correlation-patterns representation, Dynamic conductivity*)
Transport properties (see also *Hard-sphere gases, Polymer suspensions, Rheology, Three-particle collision effects*)
– The influence of nuclear spins on the—of molecular gases and application to HD - Coope *et al.* **79A** (1975) 129
Transport properties in liquids
– The principle of corresponding states and the dynamic properties of simple liquids - Rouch *et al.* **88A** (1977) 347
Transport properties of gases (see also *Heat conductivity*)
– The viscosity and diffusion coefficients of the binary mixtures of xenon with the other noble gases - Kestin *et al.* **90A** (1978) 215
Transport relaxation equations (see *Boundary conditions, Kerr effect*)
Transport theory (see also *Fluctuation theory, neutrino gas, Nonequilibrium phenomena, Relativistic Boltzmann theory, Relativistic gas of hard spheres, Renormalisation of kinetic coefficients, Variational principles for transport coefficient*)
– Relativistic kinetic theory of quantum systems. V. Transport equations for the massive components of an $e\bar{e}\nu_e\bar{\nu}_e$-mixture - Siskens and Van Weert . . . **87A** (1977) 369
– Kinetic theory of reacting systems - Eu and Li **88A** (1977) 135
– The structure factor and the transport properties of dense fluids having molecules with square well potential, a possible generalization - Sharma and Sharma **89A** (1977) 213
– A perturbation solution to generalized Boltzmann equation – Wagh **90A** (1978) 137
Transport theory in two dimensions
– —II. The thermal conductivity coefficient - Yuan and Oppenheim **90A** (1978) 21
– —I. The self-diffusion coefficient - Yuan and Oppenheim **90A** (1978) 1
Transport theory of plasmas
– Current density and field fluctuations in a conducting medium - Felderhof . **89A** (1977) 205
Transverse Ising model
– Dipolar interaction in the—of H-bonded ferroelectrics - Dumont and Dagonnier **80A** (1975) 490
– About the MFA transition temperature for the—with a dipolar interaction - Dumont **89A** (1977) 419
Transverse susceptibility (see also *Susceptibility*)
– Renormalization and scaling of a two-dimensional Ising system in a transverse field at $T_c > 0$ - Stella and Toigo **89A** (1977) 175
Transversity representations (see *Representations*)
Tree formula (see *Bogoliubov–Parasiuk theorem*)
Triangular cactus free lattice (see *Glass-like phase*)
Triangular lattice(s) (see also *Maier–Saupe model*)
– Application of the renormalization group method to the $s = \frac{1}{2}XY$ model on the triangular lattice - Rogiers and Betts **85A** (1976) 553
Triangular spin lattice
– Critical phenomena for a—I. Triplet interactions - Den Nijs *et al.* **84A** (1976) 539
Tricritical behaviour
– Series expansions for a generalized XY hamiltonian. II.—of the Takagi model - Rogiers *et al.* **81A** (1975) 93
Tricritical point
– Equilibrium of three liquid phases and approach to the—in benzene–ethanol–water–ammonium sulfate mixtures - Lang and Widom **81A** (1975) 190
Trilinear mode effects
– —on transport coefficients - Michaels and Oppenheim **81A** (1975) 522
Triple collision integrals

– On surface integrals for—in kinetic theory of gases - Eu **88A** (1977) 158
Triple point of argon (see *Three-phase equation of state*)
Triplet interactions (see *Gas of nonspherical molecules, Triangular spin lattice*)
Truncation procedure
– —for high order reduced distribution functions - Vikhrenko and Bokun **90A** (1978) 581
Tunneling junction
– —as an open system. Normal tunneling - Ono **90A** (1978) 342
Turbulent plasma
– Symmetry group of the kinetic equation and stationary distributions in a weakly— - Kaps and Kontorovich **86A** (1977) 471
Two-body interactions
– On the time evolution of large systems: A soluble model with— - Kreuzer and Capri **81A** (1975) 411
Two-component Bénard problem
– On the—. A numerical solution - Legros *et al.* **80A** (1975) 76
Two-component plasmas
– Microscipic theory of the long-wavelength modes of—and ionic liquids. I. The transverse modes - Baus **88A** (1977) 319
– Microscipic theory of the long-wavelength modes of—and ionic liquids. II. The longitudinal modes - Baus **88A** (1977) 336
– Microscopic theory of the long-wavelength modes of—and ionic liquids. III. The space–time correlation function - Baus **88A** (1977) 591
Two-dimensional biomembrane model
– Distribution of pore-size in an exactly solvable— - Wiegel **89A** (1977) 397
Two-dimensional correlation functions
– Long time expansion of— - De Schepper and Ernst **87A** (1977) 35
Two-dimensional ferromagnets
– Excitations in randomly diluted— - McGurn and Tahir-Kheli **86A** (1977) 553
Two-dimensional hard-core gas (see *Two-dimensional correlation functions*)
Two-dimensional Heisenberg ferromagnet
– Three-magnon bound states in the two-dimensional isotropic and anisotropic Heisenberg ferromagnet - Van Himbergen and Tjon **82A** (1975) 389
Two-dimensional Ising model (see also *Ising model*)
– Scaling theory and finite systems - Nightingale **83A** (1976) 561
Two-dimensional Ising system(s)
– A simple way of understanding some exact results on critical phenomena in non-homogeneous and finite Ising systems. II. Cooperativity in periodically layered systems - Decker and Hahn **89A** (1977) 37
– Renormalization and scaling of a—in a transverse field at $T_c > 0$ - Stella and Toigo **89A** (1977) 175
Two-dimensional molecular dynamics
– Dissipativity and the spectral property of the collision operator - Guo and Guo **79A** (1975) 120
Two-dimensional spin systems (see also *Renormalization group method*)
– The Hubbard identity and the absence of phase transitions in some spin systems - Fanchiotti *et al.* **90A** (1978) 164
Two-level tunneling system
– Interaction of two-level tunneling system with phonons - Gosar **85A** (1976) 374
Two-particle correlation functions (see *Polar multicomponent mixture*)
Two-phase system(s) (see also *Interfacial systems*)
– On the derivation of dynamical equations for a system with an interface. I. General theory - Ronis *et al.* **90A** (1978) 487
Two-point correlations
– Scaling function for—with long-range interactions to order $1/n$ - Theumann . **83A** (1976) 85
Two-spin dynamic autocorrelations

– —and energy diffusion in the Heisenberg paramagnet - De Leener and Résibois **87A** (1977) 63
Two-state subsystems (see *Entropy production*)
Two-wave interactions (see *Wave–wave interacting systems*)

Undamped spiking in lasers
– Irreversible circulation and the—- Tomita *et al.* **84A** (1976) 350
Unilateral transfer flows (see *Nonlinear transport theory*)
Universality hypothesis
– Series expansions for a generalized *XY* hamiltonian. I. The *XY* model in a parallel magnetic field - Dekeyser and Rogiers **81A** (1975) 72
Unphysical bound states (see *Three-magnon bound states*)
Ursell functions (see *Correlations in fluids*)

Vanadium (see *Ginzburg–Landau parameter*)
Vanadium compounds
– Determination of isotropic and anisotropic Knight shift in V_3X compounds - Wulffers and Poulis **79A** (1975) 503
Van Der Waals binding energy
– On the many-body—of a dense fluid - Nijboer **79A** (1975) 420
Van der Waals coefficients
– Dispersion forces between closed shell atoms - Lekkerkerker *et al.* **88A** (1977) 375
Van der Waals equation of state (see also *Vapour–liquid equilibrium*)
– On the generalization of the—for mixtures - Malesińska and Stecki . . . **80A** (1975) 300
Van der Waals model (see also *Self-diffusion*)
– The interpretation of transport coefficients on the basis of the—II. Extension to dilute gases - Dymond **79A** (1975) 65
Vapour–liquid equilibrium
– Vapour–liquid and gas–gas equilibria in simple systems. IV. The system argon–krypton - Schouten *et al.* **81A** (1975) 151
Variational eigenfunctions
– The approach to hard-sphere brownian motion:—and evaluation of the Rayleigh–Fokker–Planck equation - Hoare and Kaplinsky **81A** (1975) 349
Variational principles
– —for relativistic transport coefficients - Anderson **79A** (1975) 569
Variational principles for transport coefficients
– Variational principles for calculation of transport coefficients of—- Anderson **85A** (1976) 287
Variational theory (see *Green-function theory*)
Velocity autocorrelation function(s) (see also *Diffusion of clusters, Molecular dynamics, Trilinear mode effects*)
– Structure and diffusion in mixtures of rare-gas liquids - Jacucci and McDonald **80A** (1975) 607
Velocity-correlation function (see *One-dimensional hard-rod systems, Two-dimensional correlation function*
Velocity dependent interactions
– The Vlasov equation for systems with—- Goldstein and Turski **89A** (1977) 481
Velocity distribution function
– A stochastic approach to the kinetic theory of gases - Malek-Mansour *et al.* . **88A** (1977) 407
– Experimental investigation of the nonequilibrium—in a heat conducting gas - Baas *et al.* **89A** (1977) 73
Verschaffelt's work
– Critical exponents at the turn of the century - Levelt Sengers **82A** (1975) 319
Vertex models (see *Sixteen-vertex model*)
Vibrational degrees of freedom
– Light scattering from a system with—: approximate calculation of dispersion relations - Weinberg (*Letter to the Editor*) **79A** (1975) 256

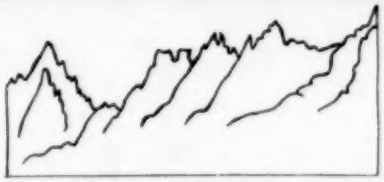
Vibrational relaxation
- —time measurements in CH_4 and CH_4-rare gas mixtures - De Vasconcelos and De Vries **86A** (1977) 490
Vibrational–transitional relaxation of molecules
- Vibrational relaxation of CD_4 and CD_4-rare gas mixtures - De Vasconcelos . **88A** (1977) 395
Vibration–rotational energy transfer
- Vibrational relaxation time measurements in CH_4 and CH_4-rare gas mixtures - De Vasconcelos and De Vries **86A** (1977) 490
Virial coefficient(s) (see also *Nondiagrammatic cluster, Second virial coefficient*)
- Statistical mechanics of linear molecules. II. Density expansions, intermolecular potentials and— Moraal **83A** (1976) 57
- —of the equation of state of a gas of nonspherical molecules. I. Nonpolar molecules - Singh and Singh **83A** (1976) 339
- Perturbation theory for square-well plus Sutherland (∞, 6) fluid - Boghdadi . **85A** (1976) 193
- Fifth virial coefficient for a system of hard disks - Kratky **85A** (1976) 607
- —of the equation of state of a gas of nonspherical molecules II. Polar molecules - Singh and Singh **87A** (1977) 344
- Fifth to tenth virial coefficients of a hard-sphere fluid - Kratky **87A** (1977) 584
Virial equation of state
- New approximations to the—for fluids - Reijnhart **83A** (1976) 533
Viscoelastic theory (see *Balance equations*)
Viscomagnetic effect
- The—in polar gases - Van Ditzhuyzen *et al.* **88A** (1977) 53
- The temperature dependence of the—in the hydrogen isotopes - Van Ditzhuyzen *et al.* **88A** (1977) 452
Viscosity (see also *Binary mixtures of dilute gases, Dense gas mixtures, Dynamic viscosity, Gas of hard spheres, Gas of nonspherical molecules, Intrinsic viscosity, Neon, Non-Newtonian viscosity, Rheology, Surface force density, Transport coefficients, Transport properties, Transport theory in two-dimensions, Viscomagnetic effect*)
- Comparaison entre la viscosité des gaz rares denses et la viscosité de modèles statistiques - Vermesse et Vidal **86A** (1977) 429
- Intrinsic—and friction coefficient of permeable macromolecules in solution - Wiegel and Mijnlieff **89A** (1977) 385
- Measurements of the—of compressed gaseous and liquid oxygen - Haynes . **89A** (1977) 569
Viscosity coefficient
- A modified hard-sphere theory for transport properties of fluids— Dymond **85A** (1976) 175
Viscosity of gases (see also *Binary gaseous systems, Viscomagnetic effect*)
- Virial coefficients of the equation of state of a gas of nonspherical molecules II. Polar molecules - Singh and Singh **87A** (1977) 344
- Effect of long-range intermolecular forces on the drag of an oscillating disk and on the— Clark *et al.* **89A** (1977) 539
- The viscosity and diffusion coefficients of the binary mixtures of xenon with the other noble gases-Kestin *et al.* **90A** (1978) 215
Vlasov equation (see also *Fokker–Planck fraction coefficient*)
- The—for systems with velocity dependent interactions - Goldstein and Turski **89A** (1977) 481
Vlassov operator (see *Plasma-dynamical modes*)
Voltarra–Lotka equation (see *Nonlinear rate processes*)
Volume viscosity (see *Relativistic transport theory, Transport coefficients*)
Von Neumann equation(s) (see also *Subdynamics*)
- *S*-operator formalism for the Liouville and—and the approach to equilibrium - Leaf **81A** (1975) 163
Vortex motion (see *Vortices*)
Vortices
- —in He II, current algebras and quantum knots - Rasetti and Regge . . . **80A** (1975) 217

Waldmann–Snider equation (see *Flow birefringence, Quantum kinetic equation*)
Wave propagation
– —according to higher order field equations I - Meuwese *et al.* **82A** (1975) 72
– Mean power transmission for one-dimensional random—using a cumulant expansion - Verheggen **90A** (1978) 606
Wave–wave interacting systems
– Phase-invariant solutions of nonlinear— - Wang **81A** (1975) 441
Weakly ionized gases
– On the three-term approximation of the solution of the Boltzmann equation for— - Ferrari **81A** (1975) 276
Weinberg–Salam model
– Transition amplitudes and probabilities for the— - Siskens and Van Weert . **89A** (1977) 163
Weinberg–Salem theory (see *eēνν̄-mixture*)
Weiss approximation (see *Two-spin dynamic autocorrelations*)
Weyl's complex eigenvalue theory
– Time evolution and spectral concentration in quantum systems - Brändas . **82A** (1975) 97
Wick(s) theorem (see also *Reduced density matrices*)
– Time-dependent *xx*-correlation functions in the one-dimensional XY-model - Perk and Capel **89A** (1977) 265
Wien dissociation
– On the theory of—for weak electrolytes - Mason and McIlroy **82A** (1975) 463
Wiener diffusion process
– On the functional integral for generalized Wiener processes— - Dekker . . **85A** (1976) 598
Wigner distribution function (see also *Diamagnetism*)
– Quantum mechanics in phase space. I. Unicity of the Wigner— - Krüger and Poffyn **85A** (1976) 84
Wigner function(s) (see also *Composite particles, Neutrino–antineutrino system, Quantum kinetic equation*)
– Relativistic kinetic theory of quantum systems. I. —for a relativistic spin-$\frac{1}{2}$ system - Van Weert and De Boer **81A** (1975) 597
Wigner-type distribution
– A non-negative— - Cartwright **83A** (1976) 210

Xenon (see *Atomic scattering, Binary diffusion of monatomic gases, Viscosity of gases*)
XY model (see also *c-cyclic XY model, Fermi lattice system, Heisenberg chain, One-dimensional alternating XY-model, One-dimensional Ising chain, One-dimensional XY-model, Renormalization group method, Spin systems*)
– On a soluble model of an antiferromagnetic chain with Dzyaloshinsky interactions. I - Siskens *et al.* **79A** (1975) 259
– On a soluble model of an antiferromagnetic chain with Dzyaloshinsky interactions. II - Siskens *et al.* **79A** (1975) 296
– Series expansions for a generalized *XY* hamiltonian. I. The—in a parallel magnetic field - Dekeyser and Rogiers **81A** (1975) 72
– Series expansions for a generalized *XY* hamiltonian. II. Tricritical behaviour of the Takagi model - Rogiers *et al.* **81A** (1975) 93
– On a soluble model of an antiferromagnetic chain with alternating interactions and magnetic moments - Perk *et al.* **81A** (1975) 319
– The—and the self-avoiding walk approximation - Dekeyser and Reynaert . **84A** (1976) 197

Yang–Feldman equation (see *Higher order field equations*)
Yang–Mills gauge theory (see *Gauge theories*)
Yvon–Kirkwood model (see *Electric polarization*)

Zeroes of position functions (see *Lattice theory*)



Les Houches Summer School Proceedings:

Session XXIX (July-August 1976)

Weak and Electromagnetic Interactions at High Energy

edited by ROGER BALIAN, and CHRISTOPHER H. LLEWELLYN SMITH.

1977 680 pages
Price: US $77.75/Dfl. 190.00
ISBN 0-7204-0742-7

This book presents a complete and thorough review of the experimental and theoretical situation in particle physics up to the end of 1976. It is written in a way which is both pedagogical and progressive, and is easy to read.

The volume includes not only a detailed description of recent, important experimental results and discussions of their interpretation, but also an exposition of current models and theoretical methods. Gauge theories represent the common theoretical themes of the lectures, and a separate lecture devoted to gauge theories, by the Nobel Prize Winner, Professor Richard P. Feynman, is included.

CONTENTS: **LECTURES:** Course 1: Deep Hadronic Structure *(John Ellis)*. **Introductory Seminars:** Functional Methods and Perturbation Theory *(Jean Iliopoulos)*. Course 2: Gauge Theories *(Richard P. Feynman)*. Course 3: Coarse Grained Quantum Chromodynamics *(Leonard Susskind)*. Course 4: Neutrino Physics and Related Subjects *(Barry C. Barish)*. Course 5: Electron-Positron Interactions *(Bjorn H. Wijk and Gunther Wolf)*. Course 6: The Current Weak Current *(Alvaro De Rújula)*. Course 7: Beyond Charm *(Haim Harari)*. **Seminars Given During the School.**

Session XXVII (June-July 1975):

Frontiers in Laser Spectroscopy

edited by ROGER BALIAN, SERGE HAROCHE and SYLVAIN LIBERMAN

1977 xxv + 908 pages. Published in 2 volumes.
Price: US $114.25/Dfl. 280.00.
ISBN 0-7204-0457-6

The program of this session reflected the dramatic impact of the development of lasers in modern spectroscopy. The book gives a general presentation of the theoretical background necessary for the understanding of light-matter interaction problems, and reviews the various new methods in which lasers are now being used to improve our knowledge of atoms, molecules and even nuclei. The ten courses are grouped into five parts dealing first with fundamental problems and proceeding to specific applications to spectroscopy.

CONTRIBUTORS: R. G. Brewer, B. Cagnac, C. Cohen-Tannoudji, M. S. Feld, S. Haroche, A. Javan, P. L. Kelley, J. -C. Lehmann, V. S. Letokhov, S. Libermann, J. -P. Monchalin, S. Mukamel, T. Oka, M. Sargent III, G. W. Series, S. Stenholm, P. E. Toschek and H. Walther.

June Institute (1975):

Structural Analysis of Collision Amplitudes

edited by ROGER BALIAN and DANIEL IAGOLNITZER

1976 xx + 638 pages.
Price: US $61.25/Dfl. 150.00.
ISBN 0-7204-0506-8

These Proceedings present basic theoretical developments of relativistic scattering theory. Multiparticle processes have become of increasing experimental importance during the past decade and this book provides, for the first time, a coherent presentation of basic developments in the study of the analytic structure of multiparticle collision amplitudes. It also contains hitherto unpublished detailed accounts by some of the world's leading specialists of basic developments in the axiomatic foundations of relativistic quantum theory, together with the most recent results and applications in two related important areas of contemporary research, namely the Reggeon calculus and the dual resonance models.

CONTRIBUTORS: D. Atkinson, J. Bros, K. Cahill, C. E. De Tar, H. Epstein, V. Glaser, D. Iagolnitzer, M. Lassalle, G. Mahoux, S. Mandelstam, H. P. Stapp, R. Stora and A. R. White.

'Potential workers in these fields will find this beautifully produced volume a valuable reference.'

PHYSICS BULLETIN

North-Holland Publishing Co.

P.O. Box 211, Amsterdam, The Netherlands

in the USA/Canada:
52 Vanderbilt Avenue, New York, N.Y. 10017

0550

Session XXVIII (July-September 1975):

Methods in Field Theory

edited by ROGER BALIAN and JEAN ZINN-JUSTIN

1976 xviii + 387 pages.
Price: US $40.75/Dfl. 100.00.
ISBN 0-7204-0433-9

The first lectures give a solid background in field theory, followed by the development of the theory of quantization and renormalization of gauge fields. The application of the renormalization group to high-energy lepton-hadron interactions is demonstrated and finally, the applications of the field theoretical methods in other contexts are treated.

CONTRIBUTORS: E. Brézin, C. G. Callan Jr., S. Coleman, L. D. Faddeev, D. J. Gross, B. W. Lee, T. D. Lee, G. 't Hooft, M. J. G. Veltman and K. G. Wilson.

'The articles deal not only with the general ideas but also contain many detailed calculations which will be of great value to those relatively uninitiated in the techniques described and who wish to see expanded those points usually compressed in the journal publications.'

PHYSICS BULLETIN

Session XXVI (July-August 1974):

Atomic and Molecular Physics and the Interstellar Matter

edited by ROGER BALIAN, PIERRE ENCRENAZ and JAMES LEQUEUX

1975 xxiv + 634 pages.
Price: US $65.25/Dfl. 160.00
ISBN 0-7204-0328-6

'It is difficult to view in perspective the diverse recent developments in research related to the physics of the interstellar matter. Many new interstellar molecules have been discovered and mapped by radio astronomers. The diffuse interstellar medium has been studied to advantage in the far ultra-violet by instruments on spacecraft. Advances in infrared astronomy have made possible probes of relationships between gaseous and solid material and between cloud structure and the process of star birth. **Collectively, the 11 lecture courses of the 26th Les Houches Summer School of Theoretical Physics provide a much-needed, broad perspective on the field.** *All lectures in this volume reflect sound physical intuition and will therefore remain useful for some time to come.'*

SCIENCE

Problems with Computer Programs?

WHY WASTE TIME AND MONEY DESIGNING AND TESTING YOUR OWN COMPUTER PROGRAM WHEN THE ONE YOU NEED MAY ALREADY BE AVAILABLE?

WE OFFER **2 POSSIBILITIES OF SOLVING YOUR PROBLEMS** IN COMPUTATIONAL PHYSICS AND COMPUTER PROGRAMS IN PHYSICS:

1. Computer Physics Communications

COMPUTER PHYSICS COMMUNICATIONS: the leading international journal publishing descriptions of computer programs in physics. It also publishes papers and letters on computational methods and the application of computers to physics, in the following areas: descriptions of numerical methods; descriptions of computer techniques; general descriptions of programs in a particular field of physics or quantum chemistry; general descriptions of methods or programs associated with the design, running or analysis of experiments; descriptions of program languages and system programs which are of particular importance to physicists or quantum chemists; comments on previous publications in CPC; review papers in the general field of computational physics; and comments on manufacturers' hardware and software.

2. The Program Library

Affiliated to Computer Physics Communications is the CPC Program Library. This Library is a non-profitmaking organisation which holds and distributes all the programs published in Computer Physics Communications. The library offers a dual service: a subscription scheme designed for laboratories and institutes who wish to receive regularly all the contributed programs, and a service to scientists who require particular programs relevant to their research. Full details are available from the program librarian: V.M. Burke, School of Physics and Applied Mathematics, The Queen's University of Belfast, Belfast BT7 INN, Northern Ireland.

Please write for full details on the journal. We will gladly mail you a free copy of the journal and the cumulative program index of Computer Physics Communications.

north-holland P.O. BOX 211, AMSTERDAM, THE NETHERLANDS

5361 NH

Proceedings of the First Marcel Grossman Meeting on General Relativity

Organized and held at the International Centre for Theoretical Physics, Trieste and Istituto di Fisica Teoretica, University of Trieste, 7-12 July, 1975

edited by **R. RUFFINI**

1977 680 pages Price: US $39.50/Dfl. 100.00 ISBN 0-7204-0707-9

The Marcel Grossman meeting was conceived with the aim of reviewing recent advances in gravitation and general relativity with major emphasis on their mathematical foundations and physical predictions. The main objective was to elicit contributions which would deepen our understanding of space-time structure, and to review the status of experiments verifying Einstein's theory of gravitation.

This volume is a record of that meeting. It contains contributions ranging from alternative approaches to the quantization of gravity, to the theoretical significance of gravitational experiments; from recent advances in vacuum polarization in strong gravitational fields, to alternative classical microphysical structure of space-time. Most importantly, it shows in detail how general relativity from being an elegant mathematical theory has become a mature, modern field theory at the very center of physics and astrophysics.

The alternative approaches and different points of view presented on each individual topic make this book a most useful and inspiring basis for further study at the advanced graduate level.

CONTENTS: **1. Quantization of General Relativity.** *Contributors:* C. Aragone, D. Christodoulou, L. Halpern, A. Inomata, P. van Nieuwenhuizen, M. Pilati, T. Regge, A. Salam, G. M. Souriau, W. Szczyrba, J. Tarski, C. Teitelboim. **2. Space-Time Structures:** *Contributors:* D. Brill, P. Hajicek, C. Lopez, E. W. Mielke, T. Nakamura, E. Newman, R. Penrose, A. Quale, H. Sato, B. Schmidt, A. Tomimatsu. **3. Singularities in General Relativity:** *Contributors:* B. Carter, N. D. H. Dass, S. L. Detweiler, J. Ehlers, F. W. Hehl, P. von der Heyde, M. D. Johnston, E. M. Lifshitz, B. Lucacs, Z. Perjes, M. Peterson, A. R. Prassana, V. Radhakrishnan, R. Ruffini, A. Taub, J. Weinstein, D. Wilkins, Z. Zerilli (Chairman). **4. Relativistic Magnetohydrodynamics.** *Contributors:* S. Chandrasekhar, Y. Choquet-Bruhat, R. S. Hanni, W. Kundt, A. Lichnerowicz, R. Ruffini, H. Quintana, J. R. Wilson. **5. Particle Creation in Strong Gravitational Fields.** *Contributors:* P. C. Aichelburg, B. Bertotti, T. Damour, P. C. W. Davies, L. R. Davis, N. Deruelle, U. H. Gerlah, G. W. Gibbons, H. Rumpf, A. A. Starobinsky, W. G. Unruh, W. T. Zaumen. **6. Experimental Results on Gravitational Theories.** *Contributors:* F. I. Cooperstock, C. W. F. Everitt, W. Fairbank, G. J. G. Junevicus, K. Nordtvedt, Jr., F. Occhionero.

north-holland

P.O. BOX 211 / AMSTERDAM / THE NETHERLANDS

IN THE U.S.A. AND CANADA: 52 VANDERBILT AVENUE / NEW YORK, N.Y. 10017

The Dutch guilder price is definitive. US $ prices are subject to exchange rate fluctuations.

1052NH

Statistical Physics

edited by **L. PÁL** and **P. SZÉPFALUSY**

1976. 252 pages. Price: US $33.95/Dfl. 85.00. ISBN 0-7204-0431-2

This volume contains the invited lectures given at the IUPAP International Conference on Statistical Physics, held in Budapest, Hungary, 25-29 August 1975, and reflects the developments made in this field during the last few years.

The central theme of the book is the description of the original ideas and the most recent advances of Wilson's renormalization group theory - the theory which resulted in the subsequent breakthrough in the theory of phase transformations and critical phenomena. Other aspects of the theory of phase transitions are also examined and several papers are devoted to the theory of open systems, i.e. systems far from thermal equilibrium, while an excellent account is given of certain problems of kinetic theory.

CONTENTS: Opening Address *(L. Pál)*. The Renormalization Group and Block Spins *(K.G. Wilson)*. Fluctuations in Closed and Open Non-Linear Systems *(N.G. van Kampen)*. Statistical Theory of Self-Organizing Structures *(H. Haken)*. The Oneset of Turbulence: A Review of Recent Developments in Theory and Experiment *(P.C. Martin)*. Variational Calculations of Renormalization Group Transformations *(L.P. Kadanoff, A. Houghton, M.C. Yalabik)*. Some Rigorous Results in the Theory of Phase Transitions *(Ja. Sinai)*. Exitonic Transitions in a Strong Magnetic Field *(A.A. Abrikosov)*. Theory of Dynamic Critical Phenomena *(B.I. Halperin)*. Kinetic Theory of Hard Spheres Close to Equilibrium *(P. Résibois)*. Critical Behaviour of Stationary Random Fields *(G. Jona-Lasinio)*. Statistical Mechanics of Nucleation and Phase Separation *(K. Binder)*. Index.

north-holland

P.O. BOX 211 / AMSTERDAM / THE NETHERLANDS

IN THE U.S.A. AND CANADA: / 52 VANDERBILT AVENUE / NEW YORK, N.Y. 10017

The Dutch guilder price is definitive. US $ prices are subject to exchange rate fluctuations.

2094 NH

NOTE TO AUTHORS

PHYSICA has been divided into three sections:

PHYSICA A (*Theoretical physics – Statistical physics*) contains papers on theoretical physics, with emphasis on statistical mechanics. Papers on experimental work on the statistical or collective behaviour of matter in the gaseous and liquid states also belong to this section. Theoretical physics is to be understood as the study of the theory itself and not as the interpretation of specific experimental results.

PHYSICA B (*Physics of condensed matter*) contains papers, both experimental and theoretical, in the realm of the physics of condensed matter. Articles on solid state physics and low temperature physics, e.g. superconductivity and properties of liquid and solid helium, should be submitted to this section.

Theoretical papers should preferably be related to experimental results. For instance "A theory on nuclear spin lattice relaxation in metals" would in general be more suitable for PHYSICA B, while a theoretical discussion on "Screening effects in the electron gas" would presumably belong to PHYSICA A.

The emphasis is on pure physics rather than on technical methods or applications. Discussions of the properties of materials such as metals, insulators, magnetic materials, and ferroelectrics will be welcomed, but in some cases such papers could more appropriately be referred to a journal on chemical physics.

PHYSICA C (*Atomic and molecular physics – Plasma physics – Optics*) contains papers dealing with free atoms, ions and molecules, with radiation, with the internal structure of atoms and molecules (spectroscopy in all wavelength regions except the gamma radiation region; collision physics), and with their interactions, except for long distance ordering. Studies on interaction between radiation and condensed matter (such as nonlinear optical phenomena) will be referred to PHYSICA B if the primary aspect is the investigation of the materials in question, otherwise it belongs to PHYSICA C. Interaction of radiation with free particles (such as scattering by electrons in a plasma) is acceptable in PHYSICA C. Quantum electronics and laser physics are also in the scope of PHYSICA C except when the emphasis is on the properties of solid and liquid state laser materials.

Theoretical papers should preferably be related to experimental results.

It would be helpful for the editors to know which section the authors consider most suitable for their manuscripts.

Manuscripts should be sent *in duplicate* to the general editor, Prof. Dr. W.J. Huiskamp, Kamerlingh Onnes Laboratorium, Nieuwsteeg 18, Leiden, The Netherlands. They should be written in English, French or German and typed with double spacing, wide margins and on one side of the page only. The contribution should deal with *original research* not yet published elsewhere.

The title should be concise but explanatory. When the length of the title exceeds 45 letters, a running title should be indicated. The name of the institute, the town and the country where the research was carried out should be stated with the author's name.

An abstract of not more than 150 words should be provided in English, summarising the *new information* and the author's *conclusions*.

References in the text should be numbered (e.g., "Jones and Smith[1]) have reported that...") and listed on a separate sheet stating the author, journal, volume and the year of publication (in brackets) and the number of the first page. Example. 1) S. Jones and P. Smith, Phys. Rev. **190** (1964) 2016.

Formulae should be clearly written. Vectors will be printed in bold-face italics (heavy, slanting type), and should be indicated by a wavy underlining in the type-script.

Special attention should be paid to characters that can be easily misread, such as i (lower case), I (cap.), l (el), 1 (one), ′ (prime); o (lower case), O (cap.), 0 (zero), ° (degree); u, v (vee), ν (Greek nu), V (cap.); ×, x, X; z, Z; p, P, ρ (Greek rho); etc.

Drawings and any lettering should be done in India ink. Lines should be bold, the frame lines of graphs slightly finer than those of the plotted curves. The figures should be numbered and the captions listed on a separate sheet.

Alterations in the text cannot be permitted once the paper has been typeset. Authors will be charged for extra correction resulting from their inattention.

Refereeing. All papers are subjected to refereeing.

Acceptance cards will be sent by the editor. There is *no* page charge.

Reprints. 50 reprints of each article will be supplied to the first author free of charge. An order form for reprints will be provided with the author's proof. It should be returned to the publishers together with the manuscript and one corrected copy of the author's proof.

Differential Forms in Mathematical Physics

by **C. VON WESTENHOLZ**

1977 xvi + 500 pages Price: US $61.25/Dfl. 150.00 ISBN 0-7204-0537-8

During the past six years, the author of this book has delivered lectures on differential forms and their applications in mathematical physics at various universities, to audiences consisting of mathematicians, mathematical physicists, theoretical physicists, mathematically inclined experimental physicists and engineers. This work constitutes an extended and improved version of the material presented in these lectures.

The main aim of this book is to develop an intuition and working knowledge of the subject "differential forms in mathematical physics" without insisting on an extremely high degree of mathematical rigour or precision. It shows the way in which new methods, i.e. intrinsic methods which derive from manifold theory, offer an alternative approach to mathematical physics.

This book serves as an introduction to research in mathematical physics (the foundations of mechanics and quantum mechanics, quantum field theory on jet bundles etc.).

CONTENTS: **Part I: Basic Concepts.** Chapters: 1. Topological Preliminaries. 2. Differential Calculus on R^n. **Part II: Manifolds.** 3. Differentiable Manifolds. 4. Differential Calculus on Manifolds. 5. Lie Groups. 6. Fibre Bundles. **Part III: Differential Forms.** 7. Basic Concepts of Differential Forms. 8. The Frobenius Theory. **Part IV: Integration Theory on Manifolds.** 9. Integration of Differential Forms. 10. The de Rham Cohomology. **Part V: Theory of Connections.** 11. Connections on Fibre Bundles. **Part VI: Intrinsic Mathematical Physics.** 12. Hamiltonian Mechanics and Geometry. 13. General Theory of Relativity.

north-holland P.O. BOX 211 / AMSTERDAM / THE NETHERLANDS — IN THE U.S.A. AND CANADA: 52 VANDERBILT AVENUE / NEW YORK, N.Y. 10017

The Dutch guilder price is definitive. US $ prices are subject to exchange rate fluctuations.

1082NH